TECHNOLOGY DEPT.

January 7, 1942

# NATIONAL PETROLEUM NEWS

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## 100-Octane Number Aviation Fuel

An editorial discussion of the U. S. fuel need and the bright outlook for the future requirements of this product. R-1.

What are Japan's aviation gasoline requirements and where is she obtaining her supply? R-2.

Methods for the manufacture of aviation gasoline and other needed petroleum products are pictured in a flow diagram prepared by the Office of Petroleum Co-ordinator. R-3.

Alkylation process for higher octane blending agent using sulphuric acid as the catalyst is summarized. R-4.

## New British Specifications

The British Petroleum Mission outlines major specifications and test methods for lubricants together with a few special oils. R-10.

## NEWS IN BRIEF

Octane number of Ethyl 'gas' is reduced. Page 15.

* * *

U. S. to buy output of new 100-octane units; will lend financial aid where needed. Page 15.

* * *

OPC moves to hike supply of crude for aviation gasoline. Page 15.

* * *

British again revise specifications of 100-octane 'gas'. Page 15.

Gulf coast refiners guard against sabotage and air raids. Page 14.

* * *

Western Pennsylvania refiner group hits proposed 10% rail hike. Page 17.

* * *

Maritime commission reduces time charter tanker rates. Page 17.

* * *

Texas Railroad Commission places movement and storage of crude under strict surveillance. Page 6.

## REFINING TECHNOLOGY EDITION

# NOW—
## MORE THAN EVER
# QUALITY
## IS IMPORTANT!

With the defense effort taxing the resources of our nation to the limit, no man can estimate with certainty how long it will be before the things he buys today can be replaced. Thus *quality* of a product assumes importance far greater than in ordinary times. Tokheim pump owners are assured that the pumps they own have been built to give the fullest measure of service. Those who need new pumps may well consider the record of Tokheim pumps during 41 years, and the tradition of quality to which the Tokheim name has always been firmly anchored.

***OUR DEFENSE ASSIGNMENT***

Manufacturing various ammunition components to the infinite degree of accuracy required by government specifications.

QUALITY TOKHEIM
THE 10-YEAR PUMP

TOKHEIM OIL TANK & PUMP CO.
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
FOR 41 YEARS
FORT WAYNE INDIANA

## COMING MEETINGS

**JANUARY, 1942**

**Northwest Petroleum Assn.,** St. Paul, Minn., Wed.-Thurs., Jan. 7-8.
**Society of Automotive Engineers,** Annual Meeting (and Engineering Display) Book Cadillac Hotel, Detroit, Mich., Mon.-Fri., Jan. 12-16.
**Oil Trades Assn. of New York,** Quarterly Meeting & Dinner, Waldorf-Astoria, N. Y., Tues., Jan. 20.
**Liquefied Petroleum Gas Assn.,** Eastern Section, Hotel Pennsylvania, New York, N. Y., Thurs.-Fri., Jan. 22-23.
**Tennessee Oil Men's Assn.,** Winter Meeting and Equipment & Supplier's Exposition, Hotel Peabody, Memphis, Tenn., Sun.-Tues., Jan. 25-27.
**Compressed Gas Manufacturers Assn.,** Waldorf-Astoria Hotel, New York, N. Y., Mon.-Tues., Jan. 26-27.
**Oil Trades Assn. of Philadelphia,** Bellevue-Stratford Hotel, Philadelphia, Pa., Wed., Jan. 28.

**FEBRUARY**

**American Institute of Mining & Metallurgical Engineers,** Petroleum Div., Annual Meeting, Engineers Bldg., New York, N. Y., Mon.-Thurs., Feb. 9-12.
**Kentucky Petroleum Marketers,** 16th Annual Meeting, Brown Hotel, Louisville, Ky., Tues.-Wed., Feb. 10-11.
**Missouri Independent Oil Jobbers Assn.,** 5th Annual Convention, Missouri Hotel, Jefferson City, Mo., Wed.-Thurs., Feb. 11-12.
**Liquefied Petroleum Gas Assn.,** Annual Convention, Hotel Fort Des Moines, Des Moines, Ia., Mon.-Wed., Feb. 23-25.
**Iowa Independent Oil Jobbers' Assn.,** Annual Convention, Hotel Fort Des Moines, Des Moines, Ia., Wed.-Fri., Feb. 25-27.
**American Petroleum Institute,** Div. of Production, Southwestern District, Spring Meeting, Adolphus Hotel, Dallas, Tex., Thurs.-Fri., Feb. 26-27.
**North Texas Oil & Gas Assn.,** Wichita Falls, Tex., Sat., Feb. 28.

**MARCH**

**American Society for Testing Materials,** Committee Week and Spring Meeting, Cleveland, Ohio, Mon.-Thurs., March 2-5.
**Indiana Independent Petroleum Assn.,** Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., Tues.-Thurs., March 3-5.
**Oil Trades Assn. of New York,** Annual Meeting & Election of Officers, Waldorf-Astoria Hotel, N. Y., Tues., March 10.
**American Petroleum Institute,** Div. of Production, Pacific Coast District, Spring Meeting, Biltmore Hotel, Los Angeles, Calif., Tues., March 10.
**Illinois Petroleum Marketers Assn.,** Annual Convention, Hotel Pere Marquette, Peoria, Ill., Tues.-Thurs., March 10-12.
**Wisconsin Petroleum Assn.,** Annual Convention and Equipment Show, Schroeder Hotel, Milwaukee, Wis., Wed.-Fri., March 18-20.
**American Society of Mechanical Engineers,** Spring Meeting, Houston, Tex., Mon.-Wed., March 23-25.
**Western Petroleum Refiners Assn.,** 30th Annual Meeting, St. Charles Hotel, New Orleans, La., Mon.-Wed., March 23-25.
**Retail Gasoline Dealers Assn. of Michigan,** Annual State Convention, Pantland Hotel, Grand Rapids, Mich., Tues.-Wed., March 24-25.
**American Petroleum Institute,** Div. of Production, Mid-Continent District, Spring Meeting, Mayo Hotel, Tulsa, Okla., Thurs.-Fri., March 26-27.

**APRIL**

**American Petroleum Institute,** Div. of Production, Eastern District, Spring Meeting, William Penn Hotel, Pittsburgh, Pa., Thurs.-Fri., April 9-10.
**American Institute of Mining & Metallurgical Engineers,** Cincinnati, O., Wed.-Fri., April 15-17.
**National Petroleum Assn.,** 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, O., April 16-17.
**American Assn. of Petroleum Geologists,** 27th Annual Meeting, Cosmopolitan Hotel, Denver, Colo., Tues.-Fri., April 21-24.
**Petroleum Industry Electrical Assn.,** Washington-Youree Hotel, Shreveport, La., Wed.-Fri., April 22-24.

**MAY**

**Natural Gasoline Assn. of America,** 21st Annual Convention, Mayo Hotel, Tulsa, Okla., Wed.-Fri., May 13-15.
**International Petroleum Exposition,** Tulsa, Okla., Sat.-Sat., May 16-23.
**National Assn. of Purchasing Agents,** (Oil Company Buyers' Group), Waldorf-Astoria, N. Y., Mon.-Thurs., May 25-28.

# NATIONAL PETROLEUM NEWS

**JANUARY 7, 1942**

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NEWS BUREAU

**New York,** 50 W. 50th Street, Telephone Columbus 5-1516 and 5-1517.
**Washington, D. C.,** 803-805 National Press Bldg., Telephone, NAtional 0654.
**Tulsa, Okla.,** 904 World Bldg., Telephone, 3-7132.
**Los Angeles,** 610-A Hillstreet Bldg., 815 South Hill Street Telephone, VAndike 2845.
**Chicago,** 59 E. Van Buren Street Telephone, Harrison 5901-2-3.

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## THIS WEEK WITH NPN

**TWO EDITIONS**

That interest is mounting in "The Future for the Independent Oil Jobber," the book written by Warren C. Platt, editor and publisher of NPN, was indicated by a request received from one large oil marketing company for quotations on 100 or more. The secretary of one oil men's association ordered a quantity of the books to be distributed as gifts to members of the association. And many NPN subscribers are renewing their subscriptions now in order to take advantage of NPN's Special Combination Offer. As a result, NPN's stock of the first edition was exhausted and a second edition is now being printed. In event you haven't read this important book send for your copy now.

**1942 NEW CARS**

With restrictions on new car output here and with mounting taxes facing motorists, owners of the 1942 new cars will need to keep their cars running better and looking like new longer. This means sales for the Oil Industry, and in order to help oil companies service the new models, NPN released last week the booklet, "Servicing the 1942 Cars for Their Conservation." This booklet lists seventeen makes of automobiles and gives manufacturers' recommendations on oil and grease specifications, change periods, lubrication data, and accessories to be sold or serviced. Copies are available from NPN at 25c each, with discounts for quantity purchases.

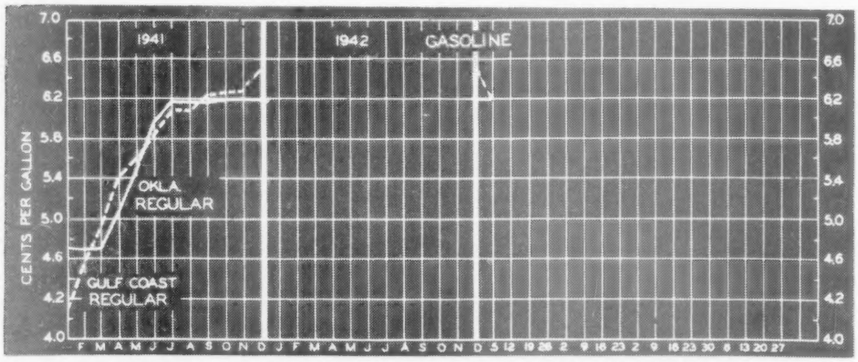
**TOURISTS**

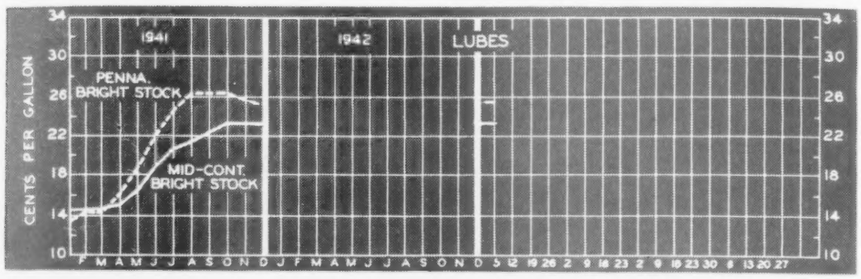
While it's a little early now to be thinking in terms of tourist business, one company in Connecticut evidently is getting prepared for maximum tourist business in 1942. This company writes NPN asking for tear sheets of articles on tourist and trailer camps. That this company carefully reads NPN is shown by its listing the page numbers of articles which appeared in NPN from 1936 to date.

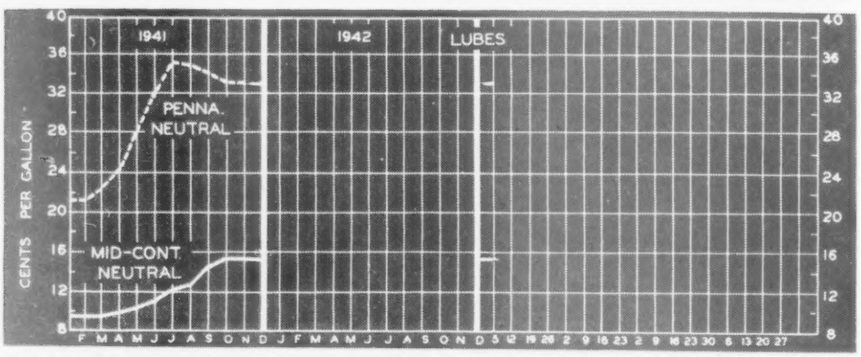
# S T A T I S T I

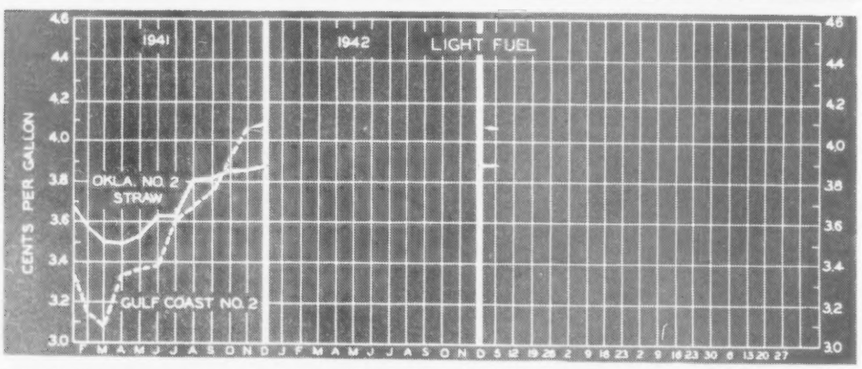
## Refinery Prices

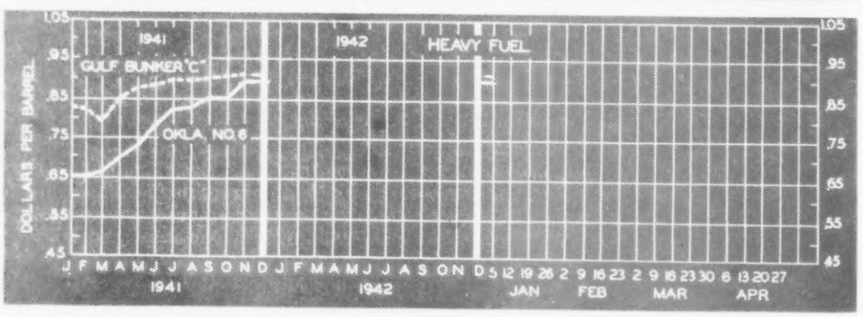
*Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN*




## NPN Gasoline Index

| | Dealer T.W. | Tank Car |
|---|---|---|
| | Cents per Gallon | |
| Jan. 5 | 10.02 | 6.79 |
| Month ago | 10.02 | 6.80 |
| Year ago | 8.55 | 5.00 |

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

## NPN Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery prices.

| Date | Margin |
|---|---|
| Jan. 2 | 71.9 |
| Month ago | 71.9 |
| Year ago | 48.8 |

## Pacific Coast Taxable Gasoline Sales

**(Reported by California Oil & Gas Assn; Thousands of Gallons)**

| | October | | % Of |
|---|---|---|---|
| | 1941 | 1940 | Gain |
| Arizona | 10,253 | 9,376 | 9.35 |
| California | 184,258 | 165,946 | 11.03 |
| Nevada | 4,213 | 3,466 | 21.55 |
| Oregon | 27,377 | 23,215 | 17.93 |
| Washington | 36,804 | 32,943 | 11.72 |
| Total 5 States | 262,905 | 234,946 | 11.90 |

| | 10 Months Total January-October | | % Of |
|---|---|---|---|
| | 1941 | 1940 | Gain |
| Arizona | 103,385 | 92,625 | 11.62 |
| California | 1,761,308 | 1,573,061 | 11.97 |
| Nevada | 37,655 | 32,510 | 15.83 |
| Oregon | 251,324 | 220,222 | 14.12 |
| Washington | 348,575 | 312,157 | 11.67 |
| Total 5 States | 2,502,247 | 2,230,575 | 12.18 |

## Summary of Forecasts for January 1942

**(Bureau of Mines Figures; Thousands of Barrels)**

| | Forecast Jan., 1942 | Forecast Dec., 1941 | Actual Jan., 1941 |
|---|---|---|---|
| **Demand for Motor Fuel:**[1] | | | |
| Domestic demand | ..... | 52,200 | 45,344 |
| Exports | ..... | 2,800 | 2,045 |
| Re-exports | ..... | (2) | (2) |
| Total demand | 52,900 | 55,000 | 47,389 |
| **Supply of Motor Fuel:** | | | |
| Straight-run and cracked gasoline production | 54,820 | 55,280 | 47,345 |
| Natural gasoline used at refineries | 4,280 | 4,720 | 3,828 |
| Total refinery production | 59,100 | 60,000 | 51,173 |
| Benzol and other natural gasoline | 1,600 | 1,800 | 1,583 |
| Imports | (2) | (2) | (2) |
| Increase in finished stocks | 7,800 | 6,800 | 5,367 |
| Available supply | 52,900 | 55,000 | 47,389 |
| **Crude-Oil Requirements:** | | | |
| Per cent yield of gasoline from crude | 43.20 | 43.59 | 42.78 |
| Refinery crude required | 126,890 | 126,810 | 110,683 |
| Daily average | 4,093 | 4,090 | 3,570 |
| Foreign crude runs | 4,300 | 4,200 | 3,147 |
| Exports | } 5,700 | 2,500 | 1,687 |
| Fuel and losses | | 3,200 | 1,951 |
| Total demand for domestic crude | 128,290 | 128,310 | 111,174 |
| Daily average | 4,138 | 4,139 | 3,586 |
| Decrease in domestic stocks | ..... | ..... | 527 |
| Actual production | ..... | ..... | 110,647 |
| Daily average | ..... | ..... | 3,569 |

[1] The term "Motor Fuel" as used in this report includes gasoline, naphtha, and benzol used for all purposes, but does not include heavier distillates used in the operation of tractors or burned in Diesel engines.

[2] Motor fuel imported in bond to be re-exported is excluded from the forecasts of both imports and exports.

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# T I C S

## Crude Oil Stocks

(Bureau of Mines Figures; Thousands of Barrels)

| Grade or Origin | Dec. 13 | Dec. 20 | Dec. 27 | Change from Dec. 20 |
|---|---|---|---|---|
| Pennsylvania Grade | 3,633 | 3,678 | 3,642 | — 36 |
| Other Appalachian | 1,529 | 1,481 | 1,427 | — 54 |
| Lima-Michigan | 1,233 | 1,345 | 1,360 | + 15 |
| Illinois-Indiana | 18,243 | 18,451 | 18,201 | —250 |
| Arkansas | 2,591 | 2,588 | 2,708 | +120 |
| Kansas | 7,400 | 7,469 | 7,481 | + 12 |
| Louisiana: | 12,348 | 12,803 | 12,901 | + 98 |
| Northern | 3,849 | 4,011 | 4,078 | + 67 |
| Gulf Coast | 8,499 | 8,792 | 8,823 | + 31 |
| Mississippi | 2,202 | 2,292 | 2,290 | — 2 |
| New Mexico | 6,781 | 6,799 | 6,862 | + 63 |
| Oklahoma | 51,562 | 51,685 | 51,582 | —103 |
| Texas: | 81,676 | 81,709 | 82,155 | +446 |
| East Texas | 20,549 | 20,498 | 20,287 | —211 |
| West Texas | 18,070 | 18,305 | 18,682 | +377 |
| Gulf Texas | 23,935 | 23,886 | 24,153 | +267 |
| Other Texas | 19,122 | 19,020 | 19,033 | + 13 |
| Rocky Mountain | 16,267 | 16,217 | 16,095 | —122 |
| California | 34,574 | 34,691 | 35,083 | +392 |
| Foreign | 2,644 | 2,409 | 2,203 | —206 |
| Total United States refinable | 242,683 | 243,617 | 243,990 | +373 |
| Heavy in California | 10,128 | 10,058 | 9,925 | —133 |
| East Coast refinery crude | 12,256 | 12,055 | 12,010 | — 45 |
| East Coast pipe line crude | 466 | 453 | 423 | — 30 |
| East Coast refined products | 67,965 | 66,848 | 65,506 | —1,342 |
| Total all oils | 80,687 | 79,356 | 77,939 | —1,417 |
| East Coast refined stocks in bond | *750 | *750 | *750 | ..... |

*Includes estimates of 100 for distillate and 650 for residual, which estimates should be added to B. of M. current totals for all oils as shown above when comparing with a year ago.

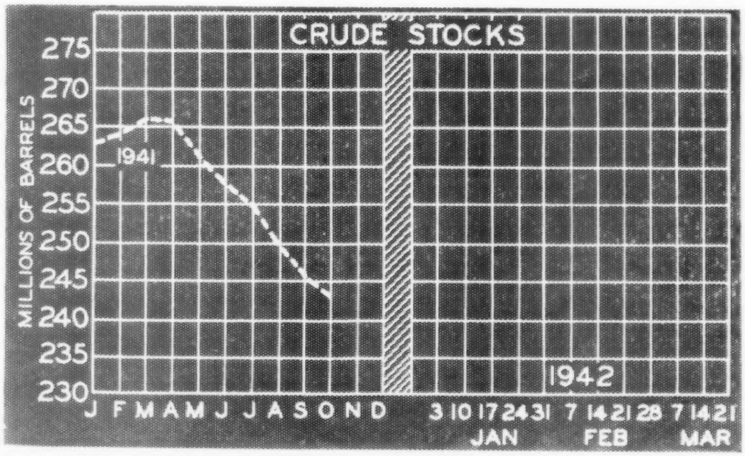
## Runs to Stills and Output of Refineries

(Bureau of Mines Figures in Thousands of Barrels)

| | —October, 1941— | | —September, 1941— | | —October, 1940— | |
|---|---|---|---|---|---|---|
| | Production | % Yield from Crude | Production | % Yield from Crude | Production | % Yield from Crude |
| Total Motor Fuel Production | 62,288 | | 60,167 | | 52,907 | |
| LESS: | | | | | | |
| Natural Gasoline Production | 5,952 | | 5,664 | | 5,047 | |
| Benzol Blended | 296 | | 266 | | 290 | |
| Finished Gasoline Production | 56,040 | | 54,237 | | 47,570 | |
| Straight-run | 24,712 | | 24,039 | | 21,602 | |
| Cracked | 31,328 | | 30,198 | | 25,968 | |
| Change in Unfinished Gasoline Stocks* | +403 | | —81 | | —145 | |
| Gasoline Produced from Crude Oil | 56,443 | 44.52 | 54,156 | 44.58 | 47,425 | 43.35 |
| Kerosine | 6,355 | 5.01 | 5,949 | 4.90 | 6,496 | 5.94 |
| Distillate Fuel Oil | 16,554 | 13.06 | 16,024 | 13.19 | 14,381 | 13.15 |
| Residual Fuel Oil | 30,871 | 24.35 | 28,118 | 23.15 | 27,944 | 25.54 |
| Lubricating Oil | 3,494 | 2.76 | 3,427 | 2.82 | 2,954 | 2.70 |
| Wax | 242 | 0.19 | 237 | 0.20 | 154 | 0.14 |
| Coke | 768 | 0.61 | 789 | 0.65 | 657 | 0.60 |
| Asphalt | 3,819 | 3.01 | 3,741 | 3.08 | 3,346 | 3.06 |
| Road Oil | 793 | 0.63 | 1,308 | 1.07 | 558 | 0.51 |
| Still Gas | 6,774 | 5.34 | 6,625 | 5.45 | 5,884 | 5.38 |
| Miscellaneous | 345 | 0.27 | 306 | 0.25 | 225 | 0.21 |
| Change in Stocks, Unfinished Oils* | —306 | —0.24 | +336 | +0.28 | —961 | —0.88 |
| Shortage | 620 | 0.49 | 465 | 0.38 | 331 | 0.30 |
| CRUDE RUNS TO STILLS | 126,772 | 100.00 | 121,481 | 100.00 | 109,394 | 100.00 |
| Daily Average | 4,089 | | 4,049 | | 3,529 | |

*Difference between unfinished stocks rerun and unfinished stocks produced.

*Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines. Weekly stocks figures beginning Aug. 16, 1941 and monthly stocks figures beginning July, 1941 do not include shuttle or lease lend material formerly reported as part of inventories.*




# NPN's Washington Directory Of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry: (List is as accurate as possible but is only tentative, as changes are constantly occurring in room and phone numbers)

*The following abbreviations are used: Rm for room; Ex for telephone extension.*

### Office of Petroleum Co-ordinator

Interior Department (New Building) 18th and C. Sts., N. W., Phone No. Republic 1820.

**Co-ordinator**
**Harold L. Ickes,** Rm 6156, Ex 500.

**Deputy Co-ordinator**
**Ralph K. Davies,** Rm 6654, Ex 3831-2.

**Co-ordinator's Staff**
6th and 7th Floors, New Interior Bldg.

**Special Assistants**
**George W. Holland,** Rm 7312, Ex 643.
**Gordon M. Sessions,** Rm 6620, Ex. 3844.
**J. Elmer Thomas,** Rm 6420, Ex 4735.

**Production Division**
**Robert E. Allen, director,** Rm 6647, Ex 3334.
**Paul M. Raigorodsky,** assistant director, Rm 6070, Ex 4774.
**Ralph J. Schlithuis,** assistant director, Rm 6642, Ex 2907.
**Sturgis L. Stentz,** assistant director, Rm 7512-A, Ex 4822-23.

**Refining Division**
**Wright W. Gary,** director, Rm 6637, Ex 3233.
**Robert B. Cragin,** assistant director, Rm 6646, Ex 3237-4644.
**Phillip M. Robinson,** assistant director, Rm 7416, Ex 4786-87.

**Transportation Division**
**H. A. Gilbert,** director, Rm 6629, Ex 4418.
**Edward H. Lynch,** associate director, Rm 6629, Ex 3329-4418.
**Allan H. Hand,** assistant director, Rm 6624, Ex 3557.

**Marketing Division**
**John W. Frey,** director, Rm 6623, Ex 4646.
**Paul A. Best,** assistant director, Rm 6625 Ex 3518.

**Research Division**
**Edward B. Swanson,** director, Rm 7313, Ex 649.
**Oliver S. Ambrose,** assistant director, Rm 7317, Ex 4777.

**Conservation Division**
**Everett Lee De Golyer,** director, Rm 6418, Ex 4459.

**Legal Division**
**J. Howard Marshall,** chief counsel, Rm 6649, Ex 4100.
**David M. Hudson,** associate chief counsel.

**OPM Priority Consultant**
**James E. Hughes,** Rm 7416, Ex 4616.

**Executive Officer**
**Stanley W. Crosthwait,** Rm 6515, Ex 4363.

**Liaison**
**Joseph H. Ellender,** special liaison agent between OPC and OPM, Rm 6525, Ex 6435.
**Gen. Walter B. Pyron**
Liaison agent between Army Department and OPC, RE-6700, EX 6044 Rm 6261 New War Department Bldg.
**Guy Holcomb**
Head, Small Business Section, Department of Justice, RE-8200, Ex 96, Rm 3410.

**Information Division**
**Herbert A. Yocom,** director, Rm 6620, Ex 3844.
**Walter Onslow,** on special assignment to information division, Rm 6622, Ex 4446.

**Foreign Division**
**W. D. Crampton,** director, Rm 7525, Ex 4788.
**C. S. Snodgrass,** assistant director, Rm 7427, Ex 4789.
**F. Willard Bergen,** executive secretary, Tanker Control Board, Rm 7412-14 Ex 4744.

**Receptionist**
**Mrs. Rosalie E. Reid,** Rm 6635, Ex 3429.

### Office of Production Management

**Petroleum Machinery and Equipment Section, Industrial Machinery Branch, Division of Civilian Supply**—Temporary Bldg. E. Third Floor, Seventh Wing, Phone Republic 7500, Ex 3441.
**Dr. J. T. Sanders,** chief of the section.
**J. L. Choate,** refinery equipment.
**William L. Clark,** production machinery.
**David Logan,** production and refining equipment.
**M. A. Willner,** production and transportation.

**Oil Section**—New Social Security Bldg., Rm 4613, Phone Republic 7500.
**Dr. Walter Whitman,** petroleum consultant, Ex 476, 477, and 478.
**C. C. Monrad,** assistant.

### Office of Price Administration

Temporary D Bldg., 4th and Independence Ave. Phone Republic 5050.
**Leon Henderson,** administrator, Rm 46, Ex 282.
**Dr. J. K. Galbraith,** assistant administrator in charge of price division, Rm 258, Ex 673.
**George Doffing,** price executive of fuel section, Rm 2530, Ex 684.
**Joseph Salmon,** petroleum division unit chief, Rm 2442, Ex 276.
**Robert Collacott,** head of refined products division, Rm 2540, Ex 436.
**Boyd Best,** consultant in crude oil division, Rm 2526, Ex 1403.

### Congress

**Congressional Oil Investigating Committee**
**Rep. Wm. J. Cole, Jr.,** chairman, New House Office Bldg., Rm 1535, Ex 699.

**Senate Oil Shortage Investigating Committee**
**Sen. Francis Maloney,** chairman, Senate Office Bldg., Rm 354, Ex 1196, phone National 3120.

### Petroleum Industry Council for National Defense

**William R. Boyd, Jr.,** Chairman, Suite 202-D Shoreham Hotel. Phone No. ADams 0700.

### U. S. Maritime Commission

Commerce Department Phone No. Republic 6620.
**M. W. Bowen,** tankers, Rm 4319, Ex 87. (Also vice-chairman of tanker control board under OPC).

Clarence S. Beesemyer

## Heads District 5 Marketing Committee

Thirty years ago, Clarence Beesemyer climbed a fence from a cow pasture into the oil business. The pasture is now a part of Hollywood and the farmer boy is executive vice-president of Gilmore Oil Co., Ltd.

It happened like this:

Before Hollywood was a movie kingdom and Beverly Hills a showplace of stardom's wealth, Clarence Beesemyer's father ran a farm in what is now the Hollywood-Beverly Hills area of Los Angeles. Next door, so to speak, A. F. Gilmore and his son, Earl, ran a dairy farm. The Gilmores struck oil, and on a hot July 4th in 1912 young Beesemyer walked over to the Gilmore farm and "asked for a job." It was as simple as that.

Today, executive vice-president of Gilmore Oil Co., Ltd., fifty-year-old Clarence S. Beesemyer holds a key position in the oil industry's war effort as chairman of the District 5 marketing committee. War in the Pacific, with its disruption of water transportation, blackouts, necessity for protection against sabotage and aerial attack, places a huge responsibility on his shoulders.

Outside of his direct oil industry activities, Mr. Beesemyer acts as director of the Los Angeles Chamber of Commerce; director of the American Council on Public Relations and chairman of the board of the Public Relations Committee of the Pacific Coast Oil Industry.

NATIONAL PETROLEUM NEWS

VOLUME 34 WEDNESDAY, JANUARY 7, 1942 NUMBER 1

## District 2 Urges Retail Equipment Repair Priorities

NPN News Bureau

CHICAGO, Jan. 5. — Temporary marketing equipment subcommittee of District 2 today made following recommendations for consideration by the District 2 marketing committee:

1. That no oil company be permitted to deliver petroleum products to any new service stations or bulk plants contracted to be built after Feb. 1, 1942.

2. That adequate priority rating be given to service station operators to insure delivery of necessary parts for repair and maintenance of equipment.

3. That oil equipment supply houses and oil companies be permitted to maintain a 60-day inventory of repair parts.

4. That sufficient allocation of raw materials be made to suppliers of equipment in order to make those repair parts available that are essential to maintaining public health and safety needs.

5. That if metal and tin containers for bulk oils used in service stations are to be curtailed, sufficient allocation of raw material be given to the manufacturers of oil dispensing equipment to permit service station operators to be able to dispense and store bulk oils.

6. That remodeling or reconstruction of service stations or bulk plants be permitted where priorities for critical materials are not needed.

### Oil's Views on Rail Hike To be Heard This Week

*Special to NPN*

ST. LOUIS, Jan. 6.—Viewpoints of oil industry are expected to be presented later this week at Interstate Commerce Commission hearing which opened here yesterday on rails' request for an ex parte increase of 10% in rates for all commodities. Petroleum was only one of many industries checking in at hearing which filled one whole floor of St. Louis' Statler Hotel.

### Would Make Tire Thefts Federal Offense

WASHINGTON, Jan. 6.—Legislation to make tire thefts a federal offense has been proposed by American Automobile Assn. in a letter to Price Administrator Henderson.

Acting on the basis of what it called "a wave of tire thievery sweeping the country," A. A. A. said thefts are bound to result in a "bootleg market for illicit trade" in tires, tubes, parts and accessories.

A. A. A. also said half of the country's 27,000,000 passenger cars are equipped with tires which are good for another 1 to 2 years of service.

"Motorists face the stark reality that prolonging life of present cars and tires is vital to assuring individual transportation."

## New Orders Being Drafted For Marketing Priorities

NPN News Bureau

WASHINGTON, Jan. 6.—The long-pending program for handling priorities on equipment and materials for Oil Marketing—including service stations—is taking final shape and the necessary orders (M-68-C and P-98) are expected to be issued soon.

Program calls for virtual elimination of new construction, remodeling and expansion in Oil Marketing, except in certain limited categories. These orders will "back into" the problem of supplying equipment by limiting the uses to which such materials can be put.

**Provides for Replacements**

Provision will be made for replacement of worn-out equipment which is necessary to continued operation of the marketing facilities—bulk plants, service stations, etc. On certification that the equipment has been junked or is no longer useable, the marketer will be permitted to purchase the needed replacement.

If any bulk plant or service station project, now building, can be completed in 60 days, the builder probably will be permitted to go ahead.

There will be a flat prohibition against new construction or expansion, with possibly some exceptions approved by Office of Petroleum Co-ordinator on a showing that it is necessary to defense or otherwise comes within the very limited "eligible" list.

This prohibition probably will be applied even in cases where the oil company has equipment and materials stored away. Such inventories might ultimately be requisitioned for use by another marketer who can show a more justifiable need and cannot obtain the equipment elsewhere.

Basic order on marketing priorities will be M-68-C, similar to M-68 issued Dec. 23 by Office of Production Management which limited use of producing equipment except under certain specified conditions. In addition, there will be another order, P-98, which aims at making it easier for oil companies entitled to equipment and materials to obtain same.

**P-98 To Make Some Changes**

Order P-98 will make some changes in the priority ratings established in P-100 (which replaced P-22) on maintenance, repair and operating supplies. For example, oil marketing is expected to get a blanket A-9 rating on repair and maintenance material; transportation, an A-2 rating for emergency repairs (and an A-1-a and A-1-c

(*Continued on page* 12)

## How to Banish the Tire Jitters

**Tire rationing requires motorists tc get the very last mile of service out of the rubber now on their cars. But there are thousands of more miles still in their tires than most car owners realize AND OIL MARKETERS CAN PROVE IT.**

**Up to now, with typical American prodigality, we've traded in tires which could be used for months more. Yet many thrifty motorists have gotten unbelievable tire mileage by careful driving and attention to proper servicing.**

**Oil marketers can boost motorists' morale by seeking out and publicizing such examples of tire longevity.**

**Have each station operator watch for drivers with long tire mileages. With cars of one, two or even three years back, with the original rubber still on, they have only to check the speedometer. If the tire mileage is exceptional, get a letter or even an affidavit from the car owner. Take a picture of the long-wearing tires; post it in the station window. Or maybe marketers could give some kind of prize for record tire mileages.**

**Evidence of the long life of today's tires will reassure your customers who have been figuring their tire mileage—since the rationing order—in terms of their past driving habits and prompt trade-ins.**

**NPN will help by compiling this data and publishing it promptly to prove to the Nation's motorists that thousands of additional miles can be added to their tires by careful driving and proper care of their cars and tires. Send to NATIONAL PETROLEUM NEWS, Cleveland, O., the data on outstanding tire mileages, the owner's name, home town, make and model year of car, and some written support of his tire record.**

**NPN's published record will help avert panic among motorists, keep the cars rolling.**

# Texas Seeks Funds to Make Rubber from Casinghead Gas

*Special to NPN*

AUSTIN, Jan. 5.—A new process for making synthetic rubber out of casinghead gas is causing considerable excitement in Texas despite University of Texas protests that the announcement was premature.

Sen. W. Lee O'Daniel, who apparently let the cat out too early to suit Dr. E. P. Schoch, veteran University of Texas chemist, announced in San Antonio that he would ask Congress to appropriate several million dollars to finance a plant in Texas to manufacture the product. Dr. Schoch, who has been working on the process for several years, said he regretted that anything had been disclosed concerning the process because it is still in the laboratory stage and some time will be required before actual production could be started.

**Held Low in Cost**

Dr. Schoch said he did not claim that his product would be equal in quality to natural rubber, and was reluctant to discuss it. Other University spokesmen said the rubber is very satisfactory unless abused—that is, it will not stand up in an automobile tire at extremely high speeds and other severe rubber-damaging operating conditions. Its chief claim to fame is that it takes casinghead gas and makes a rubber substitute at about half the cost of present synthetics, spokesmen advised.

Sen. O'Daniel, in disclosing the process, said enough gas is now unused in Texas to manufacture thousands of tons of the synthetic annually, and that tire manufacturers could change over to the new process without radically changing their molds and equipment.

**Talks with Stevenson**

Sen. O'Daniel appeared suddenly in Austin earlier in the week and held secret conferences with Gov. Coke Stevenson, Dr. Schoch and Dr. W. R. Woolrich of the University's engineering department and state defense heads.

Gov. Stevenson said he is ready to grant an emergency appropriation to help push the development of the project any time the University asks for it.

University spokesmen said 10 more full-time research chemists were being assigned to the project in an effort to rush the synthetic into production. It was understood that the Stevenson proposal was for construction of a pilot plant, and that Sen. O'Daniel would ask funds for a huge plant to turn the material out in mass production.

*Dr. E. P. Schoch, director of University of Texas' Bureau of Industrial Chemistry*

**Method Disclosed**

Dr. Schoch said that by electrical discharge, acetylene can be produced cheaper from gaseous paraffins than by any other method and that acetylene can be made into almost any other organic chemical—including rubber. It was pointed out that up until the rubber shortage became acute, the main purpose behind the experiments was to find some way whereby casinghead gas could be profitably used. The scarcity of rubber, however, makes the synthetic angle of paramount importance now.

Dr. Schoch pointed out that synthetic rubber is already being made out of dehydrogenated butane (butadiene), but that the electrolytic gas process is much cheaper.

## Doles Out Honolulu's Gasoline Supplies

HONOLULU, Hawaii, Jan. 2.—Complaints of Honolulu citizens that they cannot operate on 10 gal. of gasoline a month—the present ration—have made G. M. Busey, Honolulu's gasoline rationing administrator, one of the busiest men in the city. Mr. Busey's job is to decide on individual merits of thousands of requests for increased gasoline rations. The photograph of Mr. Busey at his desk, passed by U. S. Censors, reached NPN this week.

*G. M. Busey (at phone)—"most sought after man in Honolulu"* —Acme Photo

## Texas Commission Watches Movement, Storage of Crude

*Special to NPN*

AUSTIN, Jan. 3.—The Texas Railroad Commission started the new year off by putting movement, transportation and storage of all Texas crudes under its strict daily observance.

Effective Jan. 2, the commission ordered daily records be kept of all such movements, and that these records be made available to commission aides upon demand.

The move is designed to aid the commission in turning crudes capable of being made into high-octane aviation gasoline into the proper channels. The commission is particularly anxious to keep tab on aviation base stock naphthas, found in greater abundance in the Gulf Coast and southwest Texas fields.

The order was the outgrowth of secret hearings that have been conducted by the commission for some time, seeking the best way to restrict high octane crudes for military uses, as requested by the OPC at the last statewide proration hearing.

The order said in part:

"Effective immediately, all persons, firms and corporations operating crude oil gatherings, transportation and storage facilities will maintain daily records of the quantities of all crude oil moved from each oil field in the state and such records shall clearly show to whom delivery is made and the quantities delivered of all oil received from each oil field separately in the state.

"It is further ordered that the information contained in the records thus required to be kept will be reported to the commission by the gatherers, transporters and handlers of such times and in such manner as may be required by the commission through the chief supervisor or the director of production of said division of the Railroad Commission."

### New Mexico Oil Quota Sets State Record

*Special to NPN*

SANTA FE, N. M., Jan. 5.—New Mexico producers are operating this month under the highest production allowable in the state's history.

January allowable is 121,200 bbls. daily, up 4000 bbls. from December and in line with the "production rate" set forth by the Office of Petroleum Coordinator.

*NPN Reports from*

# WASHINGTON

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**News for ALL branches of the Oil Industry from NPN's own bureau**

NATIONAL PETROLEUM NEWS
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## Rationing Faces Cars, Trucks; OPA Issues Tire Regulations

America's second wartime rationing order — restricting the sale of new cars, trucks and trailers—affects the automotive and petroleum industries, as did the first order which rationed new tires and tubes.

New car production is likely to be stopped within a few weeks, possibly by Jan. 31. Meanwhile, OPM's Priorities Director, Donald M. Nelson, has "frozen" all stocks of new cars, trucks and trailers until Jan. 15 by which time it is expected that a rationing system will be ready.

Car rationing will probably be along same lines as restrictions on new tires—limited to a list of "essential" users.

Under OPM's tire rationing order, Office of Price Administration has set January sales quotas at 356,974 new tires and 298,546 new tubes for passenger cars, motorcycles, trucks and buses. About two out of every three new tires will go to trucks and buses. Quotas include the rubber on new cars and trucks. Replacement shipments alone, in January, 1941, totaled 2,411,738 tires and 2,075,273 tubes.

### 9000 Miles Left in Tires

OPA Chief Henderson, in setting national, state and county quotas, said the average vehicle has about 9000 miles of travel left in its tires —not far from the average yearly mileage. This mileage can be stretched greatly by careful driving, he added.

Mr. Henderson warned the people that there was no need to get panicky.

"The fact that a rationing plan is going into effect on Jan. 5 doesn't mean that everyone is going to get a flat tire at 12:01 a.m. on Jan. 5," he added.

### Tire Rationing Rules Issued by OPA

Office of Price Administration has issued regulations carrying out terms of the tire rationing order promulgated by Office of Production Management, which was published in full text by NPN, Dec. 31, 1941. Copies of OPA's tire rationing regulations and instructions may be obtained by sending request to:

**Office of Price Administration, Washington, D. C.**

*Henderson Warns Motorists:*

## Don't Let Tire Rationing Panic You

OPA Chief Henderson's statement calling attention to the thousands of miles of unused mileage still in the average motorist's tires and warning against panic over new tire rationing, follows:

"These quotas are believed to be adequate to maintain operations of vehicles in the eligible classifications during the month of January. Tire sales are ordinarily at a low level during that month because of the fact that climatic conditions reduce not only the use of vehicles but also the wear on tires on vehicles which are driven in January. I hope that quotas for later months will reflect the greater use of vehicles and greater wear on tires in other months of the year. Just how many tires can be made available, however, will depend in part on developments in military requirements which must be met out of our present stock pile of crude rubber and the period over which both military and civilian consumption of that stock pile must be spread.

"Furthermore, it should be remembered that the average vehicle in use in this country, whether it falls within the eligibility classifications or not, has around 9000 miles of travel still left in its tires. This is not far from the average mileage traveled by motor vehicles each year. And this unused mileage can be stretched greatly by careful driving. There is urgent need to conserve not only our stocks of crude rubber but also the tires already on vehicles. But there is no need for people to get panicky. The fact that a rationing plan is going into effect Jan. 5 doesn't mean that everyone is going to get a flat tire at 12:01 a.m. on Jan. 5.

"We all should begin at once to conserve in the use of tires on passenger cars and other vehicles by stopping unnecessary driving, by "doubling up" and carrying our neighbors, by driving slowly so as to minimize tire wear, and by following the rules of good tire care."

## Camelback Supplies For Recaps Studied

With tire recapping offering motorists a means of keeping their cars rolling when their present rubber wears out, oil marketers are keeping an eye on camelback—the raw rubber for recapping—both from the standpoint of gasoline consumption as well as recapping. It was still a question mark. OPA officials said recappers and retreaders would be given as much rubber as they can use. Some tire industry sources said a camelback shortage was developing.

About recapping machinery, there was still no crystallized policy although OPM officials had previously indicated tire dealers should be able to obtain such equipment (*See NPN Dec. 24, p. 25—Ed*). Talk was heard that OPM wanted to be satisfied that all existing recapping and retreading capacity was being used 24 hours daily before granting priorities on metals and other materials for making such equipment. Another report was that changing of the alloy of aluminum moulds was being discussed with a view to "stretching" aluminum supply that might be allocated for this purpose.

But camelback supply holds the key to the recapping situation—and there is no definite word on this yet.

### Wholesale Tire Stocks Frozen

Wholesale tire stocks — including those held by oil marketers who distribute tires for resale—are still "frozen" under orders of OPA, and will continue so until regulations are worked out for replenishing tire dealers' stocks. But with tire dealers permitted to sell, on the average, only about 15% of their tire sales of January a year ago, resale stocks won't need much replenishing for awhile.

If inventories are burdensome to the tire retailer, he can sell to another retailer or certain defense agencies—even without presentation of a certificate—or he may sell his stock to a tire manufacturer with permission of OPA.

But no such relief has been provided yet for the wholesaler —his stocks are "frozen" and he cannot make deliveries even to his own retail outlets.

### Seek Relief for Dealers

Meanwhile, the National Assn. of Independent Tire Dealers plans to meet soon with Reconstruction Finance Corp. and other government agencies to see what can be done about financing recapping and retreading equipment for tire dealers. The association regards a reseller as a "tire dealer" if 25% of his business is made up of tire sales. And the association will endeavor to restrict whatever government help is obtained to such "tire dealers". This 25% figure would bar many service stations from such government help, when and if available.

### Tire Rationing Rules Issued

OPA has issued its regulations for rationing new tires and tubes, covering same

ground as indicated in the order previously issued by OPM, full text of which was published in NPN, Dec. 31, 1941.

Tank trucks, whether transports or bulk plant delivery trucks, are "eligible" to obtain new tires and tubes because "transportation of fuel" is a specific exemption to OPA's rationing regulations and was so stated in OPM's order. For-hire oil transporters, whether common or contract carriers, also come under this exemption.

Trucks delivering motor oils and other merchandise to service stations are also exempted, but the status of such deliveries to farmers and other consumers is not clear yet. Gasoline and fuel oils, including kerosine, are "fuels" and so are exempt from provision which withholds new tires from trucks delivering directly to homes, such as retail grocers, florists, laundries, etc.

## New Car Sales End

Stoppage of new car production may come as early as Jan. 15.

The reason for calling a halt to new car production was to convert automobile plants to war production. A secondary reason was to save materials—although use of critical materials has been lessened.

Retail sales were stopped probably on grounds that unless stocks were "frozen," the public would besiege car dealers and drain off their stocks before a rationing system could get under way.

The ban on retail car sales, which extends to Jan. 15, applies also to new light, medium and heavy trucks, and truck trailers. The oil industry uses many medium and heavy trucks, especially for transporting petroleum products.

### To Ration Trucks

While light trucks (less than 1½ tons) will go out of production probably about the same time manufacturers quit making new passenger cars, indications are that medium and heavy trucks will continue to be made though probably somewhat restricted in number.

Medium and heavy trucks will be rationed, too. War Transportation Chief Joseph B. Eastman will have a lot to say about the machinery for rationing these units and the standards of priority that are to be established.

Car dealers have about 450,000 new cars in stock which they will be allowed to sell under the rationing system, and in all likelihood will be given some of the approximately 200,000 cars to be produced before work is halted. Some thought is being given to financial aid for these people, but no decision has been made. It may be—though only a possibility—that the government will step in and buy up the cars.

### Car Ban Gets SPAB 'OK'

It was late on New Year's Day that Priorities Director Donald M. Nelson issued limitation orders temporarily stopping retail sales, and announced that SPAB had approved a program for stopping production of new passenger cars and light trucks. This program was submitted to SPAB by OPM's Civilian Supply Division and the automotive, transportation, and farm equipment branches of OPM.

Mr. Nelson said an amendment to the limitation orders would be issued soon permitting completion of conditional sales, chattel mortgage and similar automobile purchase contracts when delivery was made prior to January 1.

Amendments will be issued also to permit repossession of cars under such contracts in accordance with the usual laws

(*Continued on page* 18)

### U. S. Needs Scrap Metal

All industrial concerns are urged to sell scrap metal—by the pound, the ton or the carload—to help build planes, tanks, battleships and guns.

Director General William S. Knudsen of the Office of Production Management urges each company to appoint a salvage man to find the scrap and sell it immediately.

### Cut Speed to 45 m.p.h. To Save Money—PWA

If U. S. motorists would reduce their speeds to 45 miles-per-hour, they would save about 185,000,000 gals. of gasoline and $35,000,000 yearly, Federal Works Administrator John M. Carmody said this week.

PWA's estimated gasoline mileage for passenger cars at different speeds is: 17.5 miles at 45 m.p.h.; 16.4 miles at 48; 15 at 52.5; 13.4 at 57 and 11.2 at 62.

*Washington Personalities*

## Senate's Oil Prober on 'Alert'

*Sen. Francis Maloney*

When Sen. Francis Maloney of Connecticut unexpectedly investigated the East Coast oil "shortage", the petroleum industry was introduced to a man who works 16 hours a day, started the first work relief program in this country, and put forth the first proposal—so far as he knows—for federal regulation of working hours.

Up until the time he undertook the "shortage" investigation, Sen. Maloney's contact with the petroleum industry began—and ended—with the man who filled his gasoline tank. His investigation was prompted by a general fear, especially in his home state, that industrial plants might suffer from an oil shortage.

Currently, the Maloney committee is completing a study of the availability of tank cars. It is also standing by in case "new crises arise in connection with petroleum and solid fuel needs of civilian and military consumers of the U. S."

Sen. Maloney started his work relief program when he was Mayor of his hometown, Meriden, Conn., where he was born in 1894. He was serving on a state-wide council of municipal officials studying problems arising from the depression when he proposed federal regulation of hours, a flexible regulation that would have permitted short hours to place more men in jobs, and longer hours when labor proved scarce.

Emphasizing that he has never made a study of the petroleum industry, Sen. Maloney says he favors regulation of natural resource industries under a co-operative system.

He first came to Congress in 1932 when he was elected a member of the House of Representatives. In 1934 he was elected to the Senate, and was re-elected last year.

He is a former newspaperman and is proud of the fact that he has brought the newspaperman's view of government into the Senate.

# Oil's War Problems Discussed By Petroleum Industry Council

Effect of curtailment of critical materials on petroleum industry and difficulty of oil companies to maintain adequate technical staffs in face of war draft, highlighted today's general meeting of Petroleum Industry Council for National Defense. Total of 56 out of 66 members attended.

Additional 14 persons were present, including Gen. Walter B. Pyron, liaison agent for War Department with other government agencies. He spoke on need of oil industry's 100% cooperation to win war.

Lack of sufficient tetraethyl lead was discussed and a suggestion to draw up a resolution towards solving this problem was turned over to Henry Moyle, Refining Director of District 4.

Plans to meet rubber shortage through increased production of synthetic rubber, were discussed. Figures were presented on current rubber stocks and future needs.

Council also planned to adopt a resolution urging oil companies to conserve all types of scrap for war uses.

At Jan. 5 meeting of P. I. C. N. D.'s executive session, conservation order M-68 was discussed with Production Director Allen, Office of Petroleum Co-ordinator, being called in to clarify this order. Council members indicated they felt the group should have been consulted before order was drafted, but it was pointed out that order had been drafted before Council was formed. However, in future, it was indicated that this Council would be informed of vital steps when proposed.

### Forms Ready For Exception To OPM's M-68 Order

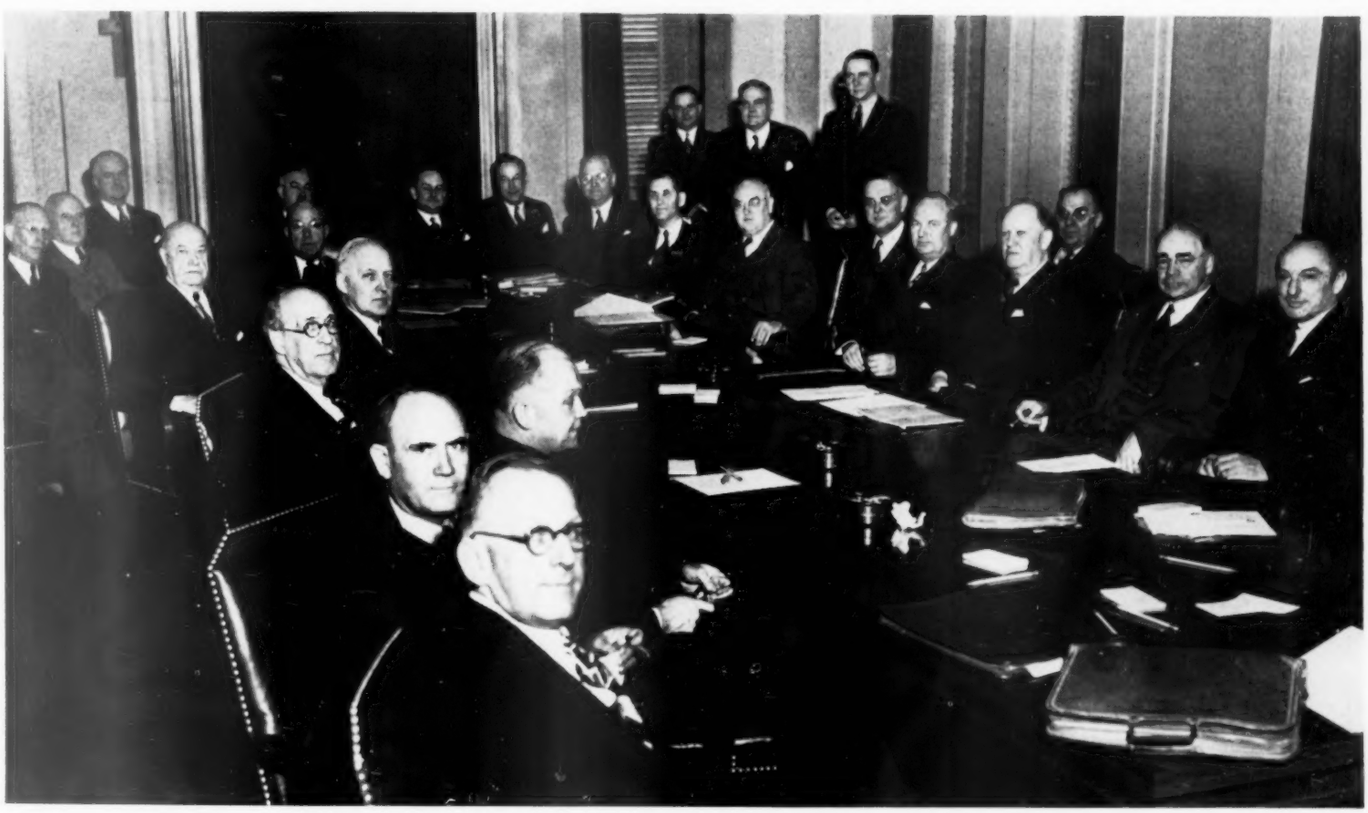
Three forms—PD-214a, PD-214b, PD-214c—have been prepared by Office of Petroleum Co-ordinator for use by oil operators in proven areas as a means for applying for exceptions to OPM's Conservation Order M-68 as provided in paragraph (c) (9). The forms, to be filled out in quadruplicate, are designed to obtain ample information upon which OPC can determine necessity for granting exceptions.

Order M-68 (*NPN Dec.* 24, 1941, *p.* 3), prohibited use of production equipment except under specified conditions or with specific authorization from OPM.

Form PD-214a is for use in applying for exceptions on development programs for oil, gas, or condensate fields or for construction of other production facilities; PD-214b, on development of any property by any operator in any oil, gas or condensate field; PD-214c, on new construction of gasoline, gas return, pressure maintenance or cycling plants.

Forms are available through district committee offices or from OPC in Washington. Address all communications to Robert E. Allen, Director of Production, Office of Petroleum Co-ordinator, New Interior Bldg., Washington, D. C.

## Members of P. I. C. N. D. Executive Committee Meet



*Executive committee of the Petroleum Industry Council for National Defense met on Jan. 5 in Washington, for the first time since its organization on Dec. 7—the day U. S. declared war on Japan. Seated from left to right around the table are: W. S. S. Rodgers, Judge J. C. Hunter, B. J. Majewski, Frank Phillips, Frank Drake, Harry Sinclair, I. A. O'Shaughnessy, Lacey Walker, W. R. Boyd, Jr., Russell Brown, E. G. Seubert, Frank Buttram, Charles F. Roeser, John A. Brown, W. A. Jones, William F. Humphrey, Eric Weber (behind Mr. Humphrey), J. Howard Pew, R. G. A. van der Woude. Seated in left background and away from table are: Otto D. Donnell, Fay Dow and Joe Dwyer. Standing in right background are: J. S. Cooke, George Hill and J. R. Parten*

# OPC's 'Materials Division' Formally Set Up by Davies

Handling of wartime priorities and allocations of equipment and materials for the entire petroleum industry is the big task confronting Office of Petroleum Co-ordinator's newest unit—the Division of Materials.

Organization of this new division predates Pearl Harbor. Some of its personnel, including the director, have been on the job for many weeks. But it was only this week that Deputy Co-ordinator Davies formally set up the new unit, stated its objectives and officially appointed William F. Huff as division chief. Sturgis L. Stentz will be Mr. Huff's assistant, with the title of assistant director.

**Served in World War I**

Mr. Huff is a burly Texan. Yet it was not in the Lone Star State but in California that he got his start in the oil industry, working as a roustabout and later a driller in California fields. After a few years of this outdoor life, he joined the Army and served throughout the first World War, receiving his discharge Dec. 6, 1918.

By 1921, Mr. Huff was assistant sales manager for Union Tool Division of National Supply Co., going from there to a similar position with National Supply Co. of California. After helping to organize a rubber company, then selling out his interest as a partner, the Texan joined Petroleum Equipment Co., Los Angeles, as manager of tubular sales. It was from this position that he was called to join the petroleum co-ordinator's staff in Washington. Lately, Mr. Huff has been busy conferring with some of his regional personnel who will soon go to OPC's branch offices to take up their work of co-operating with the oil industry on priorities matters.

Assisting Mr. Huff will be Sturgis L. Stentz, who will be assistant director. Mr. Stentz comes to OPC from National Tank Co., Tulsa.

**Experienced in Equipment**

Both of these men will be industrial encyclopedias on the industry's equipment needs, inter-departmental diplomats and public relations experts (because priorities can be a headache beyond reach of aspirin).

Whether OPC's new Materials unit will ultimately be given complete and final authority over oil industry priorities, is not known. Meanwhile, the new unit is working in close co-operation with OPM. But Director Huff's division, whether acting directly or in an advisory capacity, will play an important part in supplying the industry with equipment and materials—and procurement of these can be a matter of life or death for some units, especially the small ones, in the industry.

**To Assist All Branches**

The OPC unit will be charged with assisting all branches of the industry in obtaining equipment needed to provide fuel for planes and tanks, to keep tankers sailing, refineries on stream, wells producing and vital civilian cars moving. And included is the duty of seeing that bulk plants and service stations do not close down for lack of equipment and materials once production, refining and transportation have done their part.

Reviewing priorities applications is just part of the job but it will require decisions on whether a ton of steel is more vital for a new well in Nebraska, for example, or for a bulk plant in a defense area 100 miles from the nearest town.

While functioning as an overall, co-ordinating agency on all priorities matters, the Materials Division will consult with OPC's other divisions, including the production, transportation, refining and marketing units, on matters affecting their branches of the industry.

## Heads OPC's Division of Materials

*William F. Huff*

## 'Gas' Fuel Stocks Up; Crude Down in East

East Coast gasoline stocks for week ending Dec. 27 were 2,499,000 bbls. ahead of same week last year, Office of Petroleum Co-ordinator announced last week.

Report shows light heating oil inventories were 3,878,000 bbls. over same week last year, heavy fuel oils up 1,256,000 bbls., while crude oil stocks were 1,479,000 bbls. under last year's level.

Following table compares stocks (Figures in barrels, 000 omitted):

| | Dec. 28, 1940 | Dec. 27, 1941 | Difference |
|---|---|---|---|
| Crude oil | 13,489 | 12,010 | —1,479 |
| Gasoline | 17,541 | 20,040 | +2,499 |
| Light heating oil | 15,184 | 19,062 | +3,878 |
| Heavy fuel oil | 11,064 | 12,320 | +1,256 |
| Totals | 57,278 | 63,432 | +6,154 |

# Natural 'Gas' Groups Named

Total of 49 men were appointed this week to membership on five newly-created Natural Gas and Natural Gasoline Committees. This announcement was made by Office of Petroleum Co-ordinator. Membership in each of the five regional districts follows:

**District 1**—J. French Robinson, chairman, The East Ohio Gas Co., Cleveland; Loring L. Tonkin, Hope Natural Gas Co., Clarksburg, W. Va.; G. E. Walker, United Natural Gas Co., Oil City, Pa.; H. A. Wallace, Jr., United Fuel Gas Co., Charleston, W. Va.; H. D. Freeland, Waynesburg, Pa.; Samuel Brendel, Brendel Producing Co., Pittsburgh; Sam S. Keenan, Carnegie Natural Gas Co., Pittsburgh; S. P. Hartson, Equitable Gas Co., Pittsburgh; Thos. H. Kerr, Ohio Fuel Gas Co., Columbus; R. N. Parks, Virginian Gasoline and Oil Company, Charleston, W. Va.

**District 2**—Burt R. Bay, chairman, Northern Natural Gas Co., Omaha; A. W. Ambrose, Cities Service Gas Co., Bartlesville; Frank B. Long, Oklahoma Natural Gas Co., Tulsa; E. V. Kesinger, Natural Gas Pipeline Co. of America, Chicago; W. C. Taggart, Taggart Bros., Inc., Big Rapids, Mich.; C. S. Sanders, Stanolind Oil and Gas Co., Tulsa; Edward Buddrus, Phillips, Bartlesville; Joseph A. LaFortune, Warren Petroleum Corp., Tulsa; M. M. Stalcup, Skelly, Tulsa; Major T. J. Strickler, Kansas City Gas Co., Kansas City, Mo.

**District 3** — Neil C. McGowan, chairman, United Gas Pipeline Co., Shreveport, La.; R. E. Wertz, Amarillo Gas Co., Amarillo, Tex.; Paul Kayser, El Paso Natural Gas Co., El Paso, Tex.; C. Pratt Rather, Southern Natural Gas Co., Birmingham; E. F. Schmidt, Lone Star Gas Co., Dallas; Ted Goebbel, Shell, Houston; J. H. Boyle, Hanlon-Buchanan Gasoline Co., Tulsa; Clyde Alexander, Continental Supply Bldg., Dallas, Lawrence R. Hagy, Amarillo; J. H. Dunn, Shamrock Oil and Gas Corp., Amarillo.

**District 4** — Robert W. Hendee, chairman, Colorado-Interstate Gas Co., Colorado Springs; Cecil W. Smith, Montana-Dakota Utilities Co., Minneapolis; J. H. McIntire, Northern Utilities Co., Casper, Wyo.; F. T. Parks, Public Service Co. of Colorado, Denver; R. D. Smith, Glacier Production Co., Butte, Mont.; J. D. Roberts, Mountain Fuel Supply Co., Salt Lake City; E. B. Coolidge, Hard Rock Oil Co., Great Falls, Mont.; J. C. Johnston, Continental Oil Co., Denver; John T. Bishop, Basin, Wyo.

**District 5**—William Noeller, chairman, Southern California Gas Co., Los Angeles; George F. Schroeder, California Standard, San Francisco; E. H. McCollough, Amerada Petroleum Corp., Los Angeles; A. F. Bridge, Southern Counties Gas Co., Los Angeles; W. G. Vincent, Pacific Gas and Electric Co., San Francisco; H. L. Farrar, Coast Counties Gas Co., San Francisco; R. H. Green, Signal Oil and Gas Co., Los Angeles; H. L. Eggleston, Gilmore Oil Co., Los Angeles; H. R. Linhoff, Richfield Oil Corp., Los Angeles; L. V. Cassady, Lomita Gasoline Co., Long Beach, Calif.

## 6 Texas Counties Get OPA Approval For 3c Crude Hike

Approval of a 3c per bbl. advance for crude produced in six additional Texas counties was granted by Price Administrator Henderson last week. On Dec. 11, OPA okayed a 3c adjustment in posted prices for 17 counties in north and north central Texas. Adjustment for the six additional counties is made retroactive to Dec. 11.

OPA said this move was made "after it was determined that the same marketing factors were present" in the additional 6 counties as in the 17 counties previously approved. Some people here believe that omission of the 6 other Texas counties in the original approval was "merely an oversight."

Counties affected by this move are: Comanche, Fisher, Haskell, Jones, Taylor, and Throckmorton. Previous approval applied to following counties: Archer, Baylor, Brown, Callahan, Clay, Coleman, Cooke, Eastland, Foard, Jack, Montague, Palo, Pinto, Shackleford, Stephens, Wichita, Wilbarger and Young.

### Motorists More Than Pay Their Way in Taxes

Motorists paid $411,470,000 more than their share of the 1940 cost of highways and streets, the National Highway Users Conference reports.

Conference said official figures for state highways and estimates for local roads and streets showed highway expenditures of $1,560,464,000 during the year. Using principles outlined by Chairman Joseph B. Eastman of Interstate Commerce Commission, Conference said motorists share of street and highway costs was $916,351,000, but special motor vehicle taxes for highway purposes amounted to $1,327,821,000, after deducting administrative costs.

### $5 'Use' Tax on Autos Effective February 1

Uncle Sam will start collecting the $5 "use" tax on automobiles, trucks and buses beginning Feb. 1. Only $2.09 will be assessed from Feb. 1 to June 30, end of the fiscal year. But after that, $5 will be the annual rate.

The tax will be assessed through purchase by car owners of stamps issued at all post offices and 64 local Internal Revenue Offices, Bureau of Internal Revenue states.

Congress has appropriated $1,500,000 for collection, compared with $4,000,000 asked by Treasury Department.

### To Consider Amendments Of Tank Vessel Rules

Board of Supervising Inspectors of Bureau of Marine Inspection and Navigation will meet in Washington, Jan. 22, to consider proposed amendments to *General Rules and Regulations for Tank Vessels*, it was announced here last week. Meeting will commence at 9 a.m., in the Bureau's offices, Department of Commerce Bldg.

Amendments to be considered will mainly concern regulations of explosives on tank vessels, equipment aboard vessels, cargo handling and the licensing of engineers and pilots.

## District Men Named To Container Group

Members of oil industry's container subcommittees by districts follow:

**District 1**—Lloyd Lochridge, chairman, New York, Sinclair; W. H. Correa, New York, Socony; Dayton Clark, Pittsburgh, Gulf; W. M. Schmidt, Philadelphia, Sun; J. H. Yater, New York, New Jersey Standard; H. O. Deutch, Philadelphia, Atlantic; J. B. Fisher, Bradford, Pa., Kendall.

**District 2**—L. C. Welch, chairman, Chicago, Indiana Standard; K. C. Baker, St. Louis, J. D. Streett & Co., Inc.; M. R. Bower, Cleveland, Ohio Standard; John C. Day, Tulsa, W. P. R. A.; Harry J. Kennedy, Ponca City, Okla., Continental; R. W. McDowell, West Tulsa, Mid-Continent; M. M. McArthur, Omaha, Quaker Petroleum Co.; W. W. Murray, Chicago, Deep Rock; J. L. Nolon, St. Paul, Minn., Farmers Union Central Exchange; Charles Snyder, Chicago, Pure.

**District 3**—C. B. Prescott, chairman, New Orleans, Gulf; H. S. Gwyn, Houston, Gulf; J. B. Anthony, Albuquerque, N. Mex., Continental; A. F. Fischofer, New Orleans, Louisiana Standard; C. R. Olson, Eldorado, Ark., Lion Oil and Refining Co.; R. B. Dodson, Jackson, Miss., Kentucky Standard.

**District 4**—A. W. Yeates, chairman, Salt Lake City, Utah, Wasatch Oil and Refining Co.; G. W. Schwert, Denver, Texaco; W. E. Thomas, Denver, Navy Oil and Gas Co.

**District 5**—J. M. Evans, chairman, San Francisco, Tide Water; R. Cubicciotti, Los Angeles, Union Oil; H. C. Vesper, San Francisco, California Standard.

### Export Control Eased On High-Grade Lubes

Relaxation of export control on materials containing high-grade lubricating oils was announced last week by Board of Economic Warfare, Office of Export Control.

Export Control Schedule No. 27, issued Jan. 2, supersedes Reference B of Schedule No. 15 in that control is maintained only over materials containing more than 10% of high grade lubricating oil (viscosity of 60 seconds Saybolt Universal at 210° F., viscosity index over 60). Previously, material which contained any amount whatsoever of such lubricating oil was under strict control.

### Lead Smelters Get A-3 For Maintenance

Need for assuring full production of metals for the war effort prompted Office of Production Management to assign basic rating of A-3 to smelters and refiners of lead for acquisition of maintenance, repair and operating supplies to make sure the complete cycle of metal production from mining through refining "be completed without interruption."

Several other metals—copper, zinc, antimony, mercury and cobalt—were brought under the order which already had extended the rating to producers.

**Office of Production Management**
**Division of Priorities**
**Priorities Field Service**

**Revised December 24, 1941**

**District Offices**

| Location | Address | District Manager |
|---|---|---|
| Atlanta, Ga. | 150 Hurt Bldg. | John B. Reeves |
| Baltimore, Md. | 1054 Baltimore Trust Bldg. | T. M. Chandlee |
| Birmingham, Ala. | 302-306 Phoenix Bldg. | Martin J. Lide |
| Boston, Mass. | 19 Congress Street | Donald T. Hood |
| Buffalo, N. Y. | 212 M & T Bank Bldg. | Paul R. Smith |
| Charlotte, N. C. | 16th Floor, Liberty Life Bldg. | J. E. MacDougall |
| Chicago, Ill. | 20 North Wacker Drive | Malcolm R. MacDonald |
| Cincinnati, O. | 34 East Fourth Street | James B. Harvey (Acting) |
| Cleveland, O. | East 6th St. & Superior Ave. | William T. Walker |
| Dallas, Tex. | 4th Floor Fidelity Building | James B. Crockett |
| Dayton, O. | 819 Third Nat'l. Bank Bldg. | Harold B. Doty |
| Denver, Colo. | 521 U. S. National Bank Bldg. | Virgil L. Board |
| Detroit, Mich. | 7310 Woodward Avenue | Edmund H. Eltel (Acting) |
| El Paso, Tex. | 223 El Paso Nat'l. Bank Bldg. | Robert Stryker |
| Hartford, Conn. | Phoenix Bank Building | Edwin L. Howard |
| Helena, Mont. | Room 222 Power Block House | Oscar A. Baarson |
| Houston, Tex. | Federal Reserve Bank Bldg. | George L. Noble, Jr. |
| Indianapolis, Ind. | Circle Tower | Albert O. Evans |
| Jacksonville, Fla. | 530 Lynch Building | George H. Andrews |
| Kansas City, Mo. | 1600 Federal Reserve Bank Bldg. | Charles B. Shaeffer |
| Knoxville, Tenn. | 2nd Floor Goode Bldg. | Dyer Butterfield |
| Little Rock, Ark. | Rector Office Building | Charles S. Christian |
| Los Angeles, Calif. | 1026 Western Pacific Bldg. | Frank R. McGregor (Acting) |
| Louisville, Ky. | 200 Todd Building | James T. Howington |
| Memphis, Tenn. | 2110 Sterick Building | J. S. Bronson |
| Milwaukee, Wis. | 1st Wisc. Nat'l. Bank Bldg. | Frank J. Tharinger |
| Minneapolis, Minn. | 326 Midland Bank Bldg. | Willard F. Kiesner |
| Nashville, Tenn. | 1013 Stahlman Building | George S. Gillen |
| New Orleans, La. | 422 Canal Building | John A. Bechtold |
| New York, N. Y. | 122 East 42nd, Chanin Bldg. | Sydney Hogerton |
| Oklahoma City, Okla. | 414 to 416 Key Bldg. | C. F. Aurand |
| Omaha, Nebr. | 512 Grain Exchange Bldg. | R. H. Fair |
| Philadelphia, Pa. | Room 660 Broad St. Station Bldg. | Frederick W. Slack |
| Phoenix, Ariz. | 408 Security Bldg. | C. S. Jamison (Acting) |
| Pittsburgh, Pa. | 403 Fulton Bldg. | Charles F. Cruciger |
| Portland, Ore. | 806 Bedell Bldg. | John Fred Bergesch |
| Richmond, Va. | 10 South 5th Street | F. P. Wilmer |
| St. Louis, Mo. | 314 North Broadway | Ward H. Goodloe |
| Salt Lake City, Utah | Utah Oil Building | Ralph E. Bristol |
| San Antonio, Tex. | 1116 South Texas Bank Bldg. | Carl Pool |
| San Francisco, Calif. | 1355 Market Street | Andrew L. Kerr |
| Seattle, Wash. | 960 Stuart Building | William D. Shannon |
| Tampa, Fla. | 901 Wallace South Building | Herbert E. Brennan (Acting) |
| Tulsa, Okla. | 416 Kennedy Building | Alfred E. Ballin |

(*Continued from page 5*)

for emergency repair materials, but this extremely high rating could be used only with express permission of OPM's Priorities Division).

Most production material would get an A-8 rating under P-98, although higher ratings might be given for particular uses such as exploration and wildcatting. A rating of A-1-f may be given to refinery laboratories already in existence.

★ ★ ★

# Group Asks OPM to Delay Marketing Equipment Order

NPN News Bureau

CLEVELAND, Jan. 6.—Postponement of the impending ban on new construction and expansion of bulk plants and service stations, with the accompanying "freezing" of equipment inventories, was asked in a telegram today to OPM's Priorities Director Donald M. Nelson by the executive committee of a group of marketing equipment manufacturers. This committee was named at a conference here Dec. 19 of 27 equipment manufacturers' representatives. Today's executive committee meeting was attended by 14 manufacturers' representatives.

In its telegram to Priorities Director Nelson, the executive committee asked that the marketing equipment order be withheld at least until the committee has conferred with Office of Petroleum Co-ordinator. Such conference with OPC staff and with equipment subcommittees of district marketing committees is scheduled for Jan. 12 in Washington.

### Ask to Present Data

Committee's telegram pointed out that this Jan. 12 conference will be first opportunity equipment manufacturers' group has had to present data on their material needs for defense and necessary civilian work. It was not until the Cleveland Conference first met Dec. 19, at Cleveland Hotel here, that the manufacturers' representatives heard that a survey was under way as to oil marketing equipment needs for 1942. Since then the manufacturers have been busy compiling figures to check with the OPC and equipment subcommittees at the Jan. 12 meeting on total tonnage of metals and other materials needed for replacement, repairs and necessary extensions of marketing facilities.

Immediate "freezing" of inventories of fabricated and semi-fabricated marketing equipment, which cannot be used for war work, now in hands of manufacturers and equipment jobbers would impose a tremendous hardship, telegram to Mr. Nelson said. Continued safe operation of existing motor vehicles will require much new equipment because of additional servicing necessary.

The manufacturers emphasized that the equipment industry was now attempting to place its entire facilities on a full wartime basis—and doing so willingly, but they urged that they be permitted to make the transition to more complete war work without economic shock which would result from sudden and immediate dislocation of their operations.

Following is complete text of the telegram, which was signed by the Cleveland conference chairman, W. C. Platt, Editor-Publisher of NATIONAL PETROLEUM NEWS:

### Text of Wire

**Cleveland, Ohio, Jan. 6, 1942**
**Honorable Donald M. Nelson,**
**Director of Priorities,**
**Office of Production Management,**
**Washington, D. C.**

Executive committee representing over two hundred manufacturers of oil marketing equipment respectfully urge that contemplated order M-68-C freezing the normal marketing of all items of oil marketing equipment be withheld at least until after January twelfth on which date conference with Office of Petroleum Co-ordinator is scheduled at Washington. This Washington conference of January twelfth will be first opportunity that oil marketing equipment manufacturers have been afforded to present material facts and arguments covering their relation to production of materials for war purposes and civilian needs.

Immediate freezing of inventories of fabricated and semi-fabricated equipment which cannot be used for direct war work now in hands of manufacturers and their jobbers would impose tremendous hardship. Many companies in the industry now doing over fifty per cent direct war work would be greatly handicapped financially if their present inventories of fabricated and semi-fabricated products necessary for essential civilian use were frozen at this time.

Continued safe operation of existing motor vehicles will require much new equipment because of the additional servicing necessary.

Complete freezing of many new equipment items at this time will also bring additional hardships to all automobile dealers who must now rely for their existence solely on service and repairs of existing cars.

Many manufacturers if not given reasonable time to adjust their operations may be financially unable to continue in business and thereby much equipment now installed would be rendered useless because of inability of owners to secure repair and replacement parts which would permit its further use.

Industry as a whole is now attempting and is more than willing to place its entire facilities on full war-time basis but urges that it be permitted to make the transition to complete war work without the economic shock certain to result from sudden and immediate dislocation of its operations.

We therefore respectfully urge withholding of contemplated order pending conference set for January twelfth.

**Executive Committee of Cleveland Conference of Oil Marketing Equipment Manufacturers, Warren C. Platt, Chairman—Penton Building — Cleveland, Ohio.**

### Patent Group to Meet

WASHINGTON, Jan. 5.—Organization of Patent Planning Commission, set up Dec. 13 by Presidential order to study American patent system and to stimulate inventive genius in connection with post-war planning, will be perfected this month, Department of Commerce says. First meeting will be held here within 2 weeks.

# A.M.A. Reviews 1941 Auto Year

NPN News Bureau

CLEVELAND, Jan. 5.—Preliminary statistics on the automobile industry's 1941 motor year show the industry had accumulated $4,272,676,000 in defense contracts, including deliveries for 1943 as well as deliveries already made. Complete data released by Automobile Manufacturers Assn. follows:

### Military Assignments

**Motor vehicle manufacturers have undertaken to provide many types of war products.**

Total defense orders cumulated from Sept. 1, 1939 to Oct. 31, 1941 were ..... $4,272,676,000
(It should be noted that this total includes contracts scheduled for delivery in 1943 as well as contracts already delivered)
Classified into broad groups, these orders were for the following equipment:

| | Value (Add 000) | Per Cent of Total |
|---|---|---|
| 1. Military motor vehicles and Parts | $ 788,744 | 18.5 |
| 2. Aircraft, aircraft engines sub-assemblies and parts | 1,988,076 | 46.5 |
| 3. Tanks and parts | 713,067 | 16.7 |
| 4. Marine equipment | 234,595 | 5.5 |
| 5. Guns and ammunition | 532,006 | 12.4 |
| 6. All other | 16,188 | .4 |
| Total | $4,272,676 | 100.0 |

### Production and Values

**Car and truck factory sales, from U. S. plants:**

| | |
|---|---|
| Total | 4,820,000 |
| Passenger cars | 3,750,000 |
| Trucks | 1,070,000 |
| Wholesale value of cars | $2,610,000,000 |
| Wholesale value of trucks | $1,020,000,000 |
| Wholesale value of cars and trucks combined | $3,630,000,000 |

*Including military vehicles delivered to U. S. armed forces and non-Axis governments.

### Registrations

| | |
|---|---|
| **Motor Vehicles Registered in U. S. (Dec. 31, 1941)** | **33,725,000** |
| Motor Cars | 28,875,000 |
| Motor Trucks | 4,850,000 |
| Number of vehicles required to replace vehicles scrapped | 2,600,000 |
| World registrations of motor vehicles | 45,500,000 |
| Per cent of World's automobiles in U. S. | 74% |
| Per cent of motor vehicles on farms and in villages under 2,500 population | 40% |
| Passenger Cars | 39% |
| Trucks | 46% |

### Taxes

| | |
|---|---|
| **Total motor vehicle user taxes** | **$2,100,000,000** |
| Gasoline taxes, federal, state and municipal | $1,325,000,000 |
| Per cent motor user taxes to all taxes from all sources, Federal, state and local | 11% |

### Passenger Car Use

| | |
|---|---|
| **Per cent of cars used partly or entirely for necessity purposes** | **95%** |
| Per cent of passenger car **mileage** for necessity purposes | 55% |
| Per cent of passenger car **trips** for necessity purposes | 77% |
| Number of U. S. cities without local mass transportation, dependent on passenger cars | 2,320 |
| Number of passenger cars on U. S. farms | 4,144,136 |

### Foreign Sales

| | |
|---|---|
| **Number of motor vehicles exported from United States** | **245,000** |
| Per cent of U. S. production exported | 5.1% |

†Including military vehicles delivered to non-Axis governments.

### Employment

| | |
|---|---|
| **Employment in auto, auto body and parts factories†** | **516,000** |
| Weekly payroll, wages | $20,600,000 |

†Including employment on defense production.

### Motor Trucks and Buses

| | |
|---|---|
| **Motor trucks in use** | **4,825,000** |
| Total special motor truck taxes | $550,000,000 |
| **Number of bus and truck drivers** | **4,300,000** |
| Motor buses in use | 145,000 |
| **Number of communities served only by motor vehicles** | **48,000** |
| Number of children carried to school daily by buses | 3,975,000 |
| Per cent of trucks privately owned and operated | 86% |
| Per cent of livestock hauled to market by truck | 57% |
| Number of trucks on farms | 1,047,084 |

### Motor Vehicle Retail Business

| | |
|---|---|
| **Total dealers handling passenger cars** | **38,836** |
| Total repair shops | 87,452 |
| Total retail outlets, duplications eliminated | 93,694 |
| Wholesalers | 6,585 |
| Retail gasoline outlets | 400,000 |

# THE Editor's PAGE

*Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and publisher, Penton Building, Cleveland, O.*

## Interstate Compact Commission

## Moves to Keep Oil Control With the States

THE Interstate Oil Compact Commission, which represents the conservation efforts of all the oil states, is taking on the responsibilities that rightly belong to it in these war days. The Commission, at a recent meeting, voted to carry on such policies through its member states as will provide crude petroleum for the country and its war needs and at the greatest saving of metal and men and oil.

The job of running the oil fields of the country, if there is any "running" to do, belongs to the state conservation commissions because they are closest to the problems of the fields and have the detailed knowledge necessary for that cooperation between government and oil production, as to properly safeguard the country's oil supplies.

WITH the tremendous increase in production of planes, tanks and ships called for in the ever expanding war program, oil men foresee a considerable increase in our crude production. This increase may have to be jumped from 4,000,000 bbls. a day to 5,000,000 bbls. or more. This increase calls for a big wildcat drilling campaign which means the discovery of new fields and new sands, all of which will call for the close supervision of the various state conservation commissions.

The oil state conservation commissions are today well equipped to do this supervising job. The commissions of the bigger oil states, Texas, Oklahoma, Kansas and Louisiana particularly, have built up necessarily big organizations of skilled men through many years of trial and error not only with the geological problems of many fields but with the legal problems of the complicated rights of property and lease owners.

In contrast with this expert knowledge of the oil country, the industry today is under the heavy hand of bureaucracy at Washington whose "experts" are refusing to see the need for getting the drillers started hunting for more oil by permitting a higher price to be paid for crude oil. At the moment a 3c advance in price has been "allowed" to "save" some stripper wells in north Texas. Three-cent thinking is not going to get the country its oil.

The development and carrying out of price and all other policies regarding crude oil belong with the Interstate Oil Compact Commission and at last it is undertaking to assume that duty.

There is an important further reason why the commission should do this job; that is, when this war is over, the control, or such as it may be, of oil producing will still be back in the states and not in a highly centralized federal government bureau at Washington. The extent to which the states thus control the crude oil operation to that extent, oil men can expect less centralization of control of refining and marketing at Washington.

## What Are the Plans?

WHAT is back of Leon Henderson's crack the other day that maybe private cars will have to be commandeered by government?

The OPA administrator later said he was sorry he said it as the newspapers played it big. But if taking over private cars is in the administration's plans, why can't full grown American citizens be told of it now? People would like to know what they can plan for their passenger cars, especially now that they are denied new tires.

If the administration is going to take over private cars then it might take over privately owned trucks. Again the truck owners of the country may think they are entitled to know what it is all about.

OPC has asked its district marketing committees to work out plans for gasoline rationing which are to be kept secret. Again the country and the oil industry would like to know what is going on and what the proposed plans are.

There is great confusion at Washington and part of it, at least, is due to so few people setting up rules on industries and some know little or nothing about them. If plans were told to all the people involved, more minds could look for the bugs and thus make the plans more workable, if they do have to be put into effect.

## Still We Must Sell

PEOPLE are going to learn more about the care of machinery and equipment generally during this war than ever before. The result may be that when the war is over we will be a nation of better mechanics than we now have the reputation of being—and a nation of real conservationists.

The ban on the sale of new tires and new cars is going to make all car and truck owners far more conscious of the care of their vehicles than ever before. We all know of the careless car owner who seems deaf to rattles and squeaks—all of which tell of something wrong—and who seem blind to other plain evidences of bad condition of their cars and trucks.

Today it is the duty of the oil industry to point to these evidences of poor condition and tell the owner what he should do to make his car run longer.

The psychology today is 100% in favor of the oil industry's service to car and truck owner. But even so, the industry will have to see that its representatives contacting the customer still do some selling.

# Oil Industry 'On the Alert'

# Against Sabotage, Air Raids

*Special to NPN*

HOUSTON, Jan. 6—Perfection of a system for blacking out the numerous refineries along the Texas Gulf Coast and still allowing enough light for workers to keep the plants in operation is the only major problem remaining to put the oil industry here on a full wartime footing.

Refinery executives have been at work on the problem for several weeks and say they expected plans to be completed shortly. Camouflage painting and use of special lighting which cannot be seen from the air are known to be part of the plans.

"There is no need to worry about the oil industry, for it is really on the alert," said R. E. Smith of Houston, oil man and director of civilian defense in the five-state eighth corps area.

**Armed Guards on Alert**

Closely guarded since the outbreak of war in Europe two years ago, refineries of the Gulf Coast now have tightened these regulations until they are virtually on a "state of siege" footing. Grounds are patrolled 24 hours a day by armed guards and even the movement of employes within the grounds is under strict surveillance. No visitors are allowed except when approved and accompanied by refinery officials.

Guards on docks have been increased and tanker movements are strict secrets.

**Conduct Defense Studies**

Experiments are being conducted at Louisiana State University on the effect of gas escapage when flares from oil and gas wells are extinguished during a blackout. Col. E. O. Thompson, chairman of the Texas Railroad Commission, and others have said that the flares can be extinguished without danger from gas by shutting in the wells as operators do on regular shutdown days.

**Form Defense Unit**

The Houston Geological Society, the Gulf Coast section of the American Institute of Mining and Metallurgical Engineers, the Gulf Coast chapter of the American Petroleum Institute's division of production and the Houston chapter of the Society of Exploration Geophysicists have formed a technical defense unit.

The societies sent out questionnaires last week seeking full background and capacities of each member. These will be catalogued and filed, and will be available to the government on request.

## W. P. R. A. to Discuss Refining's War Plans

NPN News Bureau

TULSA, Jan. 5.—January technical meeting of Western Petroleum Refiners Assn. at Shreveport Jan. 9 will be given over entirely to a question-answer symposium on refinery operations.

Questions to be discussed cover a wide range and are expected by W.P.R.A. officials to give a clear idea of how refiners are thinking today in the midst of war and its manifold problems.

"The oil industry is wonderfully equipped to contribute its full share to war's demands and refiners are already demonstrating their eagerness and ability to make their industry's efforts outstanding," the announcement said, adding that the "methods and manner of accomplishing this to the best advantage will receive plenty of attention at W. P. R. A.'s January technical meeting."

A. W. Trusty, Shreveport, chief chemist of Arkansas Fuel Oil Co., will again serve as moderator.

## Canada's Crude Output Up 17.6% in 1941

*Special to NPN*

OTTAWA, Jan. 5.—Canada's crude oil production was up 17.6% in 1941 over 1940, according to preliminary estimate released by Department of Trade and Commerce. Production in 1940 was 8,590,978 bbls. valued at $11,160,213 and 1941 production was 10,107,000 bbls. valued at $13,722,000, an increase of 1,516,022 bbls. and $2,611,787, respectively.

## E. E. DeBack Dies; Was NGAA Officer

E. E. DeBack of Corpus Christi, Tex., manager of the Chicago Corp. and Coastal Recycling Corp. and vice-president of Natural Gasoline Assn. of America, died of heart attack Jan. 1. He had been actively engaged in engineering plans for an $11,000,000 project for the manufacture of 100-octane aviation gasoline in the Corpus Christi area. In addition to this work, he managed operation of the Chicago Corp., Coastal Recycling Corp., Gulf Plains Corp., Stratton Pipe Line Corp. and Stratton Drilling Co.

Born at Watsonville, Calif., in 1899, the young business executive and engineer organized the American Recycling Assn. recently. When A. R. A. was consolidated with N.G.A.A. this fall, he was elected vice-president in charge of N.G.A.A.'s high pressure gas division.

He leaves his wife and 16-year old daughter.

## Louisiana Standard Plans 100-Octane Expansion

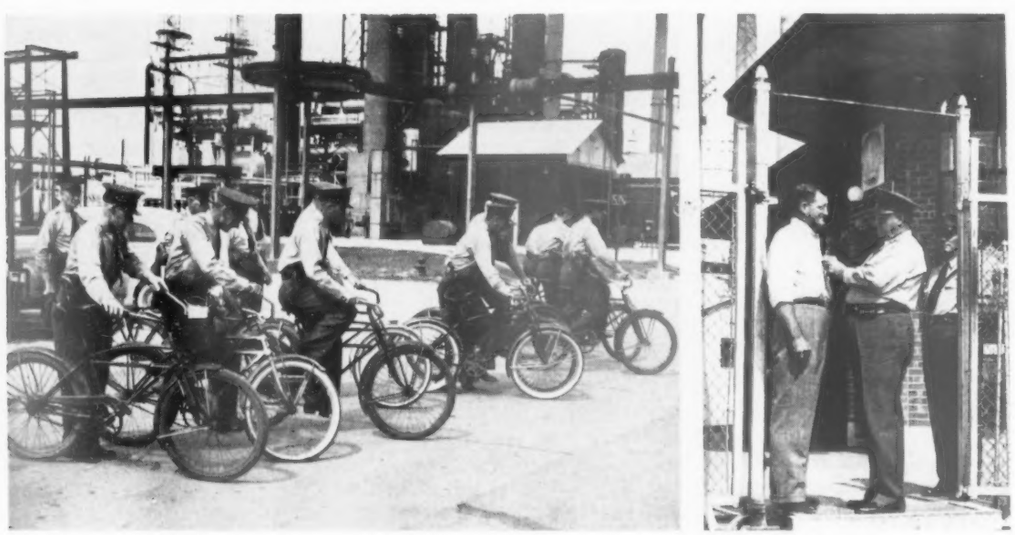
*Special to NPN*

BATON ROUGE, La., Jan. 3.—A $16,000,000 expansion program that will double the output of 100-octane gasoline at Louisiana Standard's North Baton Rouge, La., refinery was announced here by Gov. Sam Jones. New unit will turn out 7600 bbls. of 100-octane aviation fuel daily in addition to 11,000 bbls. of "regular motor fuel."

Announcement of the program brings to almost $50,000,000 the total expenditures for expansion at the Louisiana Standard plant.

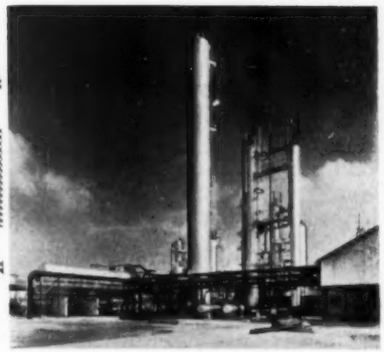
A few weeks ago, the company announced construction program calling for expenditure of $10,000,000 for manufacture of synthetic rubber. The rubber plant will be financed by the government.

## Guards Constantly Patrol Grounds on Bicycles



*Like other refineries along the Texas Gulf Coast, the huge Shell Oil Co. refinery at Deer Park, several miles south of Houston, is closely guarded. Armed guards patrol the grounds 24 hours a day. (Left) Shell's patrolmen mount bicycles to cover the high-fenced plant area. Shell's topping plant is shown in the background. (Right) Visitors are closely checked at main gate. Shell gatemen are shown tagging a visitor with the identification card which must be worn on the coat lapel as long as he is on the grounds*

# REFINING NEWS



## Reduce Octane Of Ethyl 'Gas'

NPN News Bureau

CLEVELAND, Jan. 5.—Lowering of the minimum octane number for trade-marked Ethyl (premium) gasoline from 80 to 78 (ASTM) was announced by Ethyl Gasoline Corp. in telegrams to all of its customers on Dec. 31. Ethyl corporation took this action after request from Petroleum Co-ordinator Ickes. Text of Ethyl's telegram to its customers, follows:

**WE HAVE BEEN REQUESTED BY THE PETROLEUM CO-ORDINATOR TO CONSIDER A REDUCTION IN MINIMUM OCTANE NUMBER OF FUEL SOLD UNDER ETHYL TRADEMARK TO SEVENTY EIGHT ASTM BELIEVING THIS REDUCTION REASONABLE UNDER EXISTING CIRCUMSTANCES WE ARE SO AMENDING SPECIFICATION ROMAN FOUR YOUR TRADEMARK AUTHORIZATION EFFECTIVE IMMEDIATELY SUBJECT TO YOUR ACCEPTANCE THIS AMENDMENT APPLIES TO ALL CUSTOMERS IN UNITED STATES HOLDING TRADEMARK AUTHORIZATION FORMAL AMENDMENT FOLLOWS BY MAIL E W WEBB ETHYL GASOLINE CORP.**

## OPC Moves to Hike Supplies of Crude For Aviation 'Gas'

NPN News Bureau

WASHINGTON, Jan. 5.—A three-point program to assure availability of aviation grade crude to refineries was embodied in Recommendation 28, made public this week by Office of Petroleum Co-ordinator and approved by Assistant Attorney General Thurman Arnold.

Within limits of production rates recommended to various states by OPC each month, production allowables would be fixed to provide aviation grade crude to refineries actually using aviation gasoline capacity "to the full extent that such petroleum can be utilized for production of aviation gasoline."

Fields capable of providing additional aviation grade crude would be given increased allowables to supply additional refinery capacity, as it becomes available, with crude.

"Efficient recovery" of additional quantities of aviation grade gasoline components from natural gas, condensate and oil fields of each state would be encouraged.

Recommendation was addressed to governors of all oil-producing states, state regulatory agencies, production committee of District 5 and all crude producers.

## British Again Revise 'Specs'

NPN News Bureau

WASHINGTON, Jan. 5.—Due to sudden change in wartime conditions, British Petroleum Mission has altered its specifications for 100-octane gasoline, Pool Burning and Pool Signal oil as well as Transformer oil. Text of B. P. M. letter sent to NPN by D. V. Glass follows:

"We have again revised our specifications for 100-octane aviation gasoline to fit in with new circumstances which have arisen. Instead of one specification, Ref. No. 1200, which we were using, we have now redrafted that particular specification and added a specification No. 1700. Revised specification No. 1200 covers aviation gasoline to modified U. S. Army and Navy specifications, while Ref. No. 1700 is the straight U. S. Army and Navy specification with the exception that it requires the fuel to register 100 octane number with the addition of 3 millilitres of T.E.L. instead of 4 millilitres.

"We have also revised our specifications for Pool Burning and Pool Signal oil to meet the new test set up for Wick Char. This IPT test has the same number as the old one—Burning Test for Kerosine K.35 (T)—but the new test calls for the figure to be recorded as 'weight of dry char per kilogram' instead of 'per litre.'

"Finally, we have revised our specifications for Transformer Oil (Pool Lub. No. 24) to include the dielectric strength requirement."

For copies of these revised specifications, address D. V. Glass, British Petroleum Mission, Box 680, Benjamin Franklin Station, Washington, D. C.

*(Original specifications were carried in Refining Technology Edition of NPN Dec. 24, 1941).*

## U. S. To Buy Total Output Of New 100-Octane Plants

NPN News Bureau

WASHINGTON, Jan. 6.—Arrangements have been made for Defense Supply Corp., a subsidiary of Reconstruction Finance Corp., to buy all 100-octane produced by new plants built to triple output, and re-sell it to armed forces and our Allies.

Three types of "model" contracts have been developed to hasten construction of 100-octane plants.

Contracts are designed to meet the needs: (1) of companies which will make 100-octane only for duration of war and which are not prepared to finance the plants; (2) companies which need government loans to build plants; (3) companies which are ready and able to build their own plants.

### Plan Details Outlined

It is expected that each type of contract will contain an agreement by Defense Supplies Corp. to buy entire output for 3 years from the time plants are completed, and with option for 2 one-year renewal periods.

Contracts with refiners who plan to produce only during the war will provide that they shall build the plants at the expense of Defense Plant Corp., another RFC subsidiary, and will rent the facilities from government.

### 'Escrow Plan'

Second type of contract involves the "escrow plan." Refiner will borrow 75% of plant cost and finance the balance with his own funds. He will produce gasoline at a price which will include 10% annual depreciation and 23 1/3% annual amortization.

At the end of 3 years, price of product would have included enough to pay cost of the plant. He does not actually receive sums allocated for depreciation and amortization. Sum allocated for 10% depreciation is retained by DSC and credited to account of refiner for application against the loan, so that at the end of 3 years a sum equal to 30% of plant cost has been credited to the refiner as a partial repayment of his loan. Sum allocated for 23 1/3% amortization is placed in escrow with RFC, and at end of 3 years, this amounts to 70% of original cost of plant.

### Refiners Protected

Third general plan is a simple purchase contract.

DSC, it was said, is ready to buy on basis of either negotiated prices or a cost-plus-fixed-fee basis. In either case, DSC is willing to accept provisions which will protect refiners against increases in cost of manufacture. All prices, however, are to be first approved by Army, Navy, and OPC.

## Bell Buys Malco Refinery At Artesia, New Mexico

NPN News Bureau

TULSA, Jan. 5.—Bell Oil & Gas Co. of Tulsa has acquired interests of the Malco Refineries, Inc., of Artesia, N. M.., and will enter the New Mexico-Arizona area as marketers of both Malco and Bell brand products.

The Malco plant has 250 bbls. daily of skimming capacity and 1200 bbls. of cracking capacity. Contract for a 10-year supply of crude from the Maljamar and Artesia fields of New Mexico has been closed.

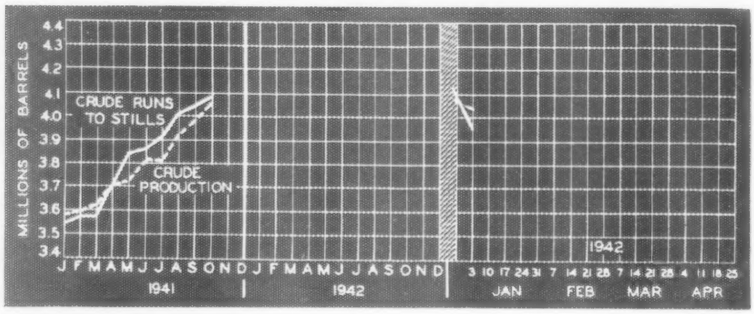
Officers of the corporation that will operate the newly-organized properties include Arthur Anson, Bell Oil & Gas Co. vice-president, president; Robert C. Anderson, formerly of American Mineral Spirits Co., vice-president; and Benedict I. Lubell, Bell executive vice-president, treasurer.

Improvements in refinery operations are already under way.

## Crude Oil Production

(American Petroleum Institute Figures)

| | WEEK ENDED Jan. 3 Barrels (Daily Average) | WEEK ENDED Dec. 27 Barrels (Daily Average) | | WEEK ENDED Jan. 3 Barrels (Daily Average) | WEEK ENDED Dec. 27 Barrels (Daily Average) |
|---|---|---|---|---|---|
| Oklahoma | 419,150 | 419,650 | Indiana | 20,700 | 19,950 |
| Kansas | 242,200 | 256,650 | Eastern (Ill. & Ind. excluded) | 101,950 | 89,550 |
| Nebraska | 5,450 | 5,350 | Michigan | 54,100 | 56,800 |
| Texas | 1,494,500 | 1,483,350 | Wyoming | 81,950 | 86,000 |
| Louisiana | 357,850 | 360,000 | Montana | 22,550 | 22,600 |
| Arkansas | 73,300 | 73,500 | Colorado | 5,550 | 5,350 |
| Mississippi | 72,550 | 75,150 | New Mexico | 118,850 | 118,850 |
| Illinois | 388,350 | 393,400 | California | 579,000 | 616,700 |
| | | | Total U. S. | 4,038,000 | 4,080,850 |

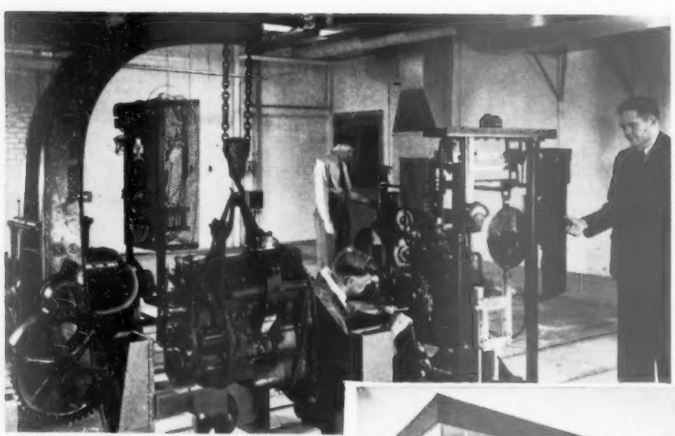



# Sohio Opens New Laboratory

CLEVELAND—New research laboratory of Standard Oil Co. of Ohio was formally opened Dec. 30 by W. T. Holliday, Sohio president. The new "lab", a two story building adjoining Western Reserve University campus, will have a 25-man staff headed by Dr. R. E. Burk, chemistry professor at Western Reserve and Sohio chemical research director. Facilities include 5 special-purpose laboratories, engine testing room, machine shop, cold room, special room for experimental manufacturing and offices; all needed for development of higher octane gasolines, diesel oils, and other fuels, lubricating oils and greases, asphalt products and new by-products of refining. "The need for petroleum research is greater than ever, now that we are actually at war," President Holliday commented during the opening ceremonies.

The "lab" staff's primary objective is to develop improved manufacturing processes, products and more efficient use of them. Ohio Standard will sponsor 4 Ph. D fellowships in chemistry, employ about 10 reserve chemistry students part time and library facilities of university and laboratory will be mutually available to chemistry students and "lab" staff.

Consulting member of the staff is Dr. H. P. Lankelma, organic chemistry professor at Reserve. Other members include Dr. E. C. Hughes, senior experiment supervisor, and Einar Kropp, chief research engineer.



*Above, engine testing room; right, external view of Sohio's new research laboratory*

## Refinery Operations

(American Petroleum Institute figures in barrels of 42 gallons. Figures are U. S. totals. Breakdown by districts will be published in Jan. 14th NPN)

| | Week Ended Jan. 3, '42* | Week Ended Dec. 27, '41* | Week Ended Jan. 4, '41 |
|---|---|---|---|
| Crude runs to stills (Da. avg.) | 3,961,000 | 4,096,000 | 3,588,000 |
| Gasoline production at refineries including natural blended | 13,569,000 | 13,859,000 | 11,754,000 |
| Finished & unfinished gasoline stocks | 92,987,000 | 91,133,000 | 85,134,000 |
| Gas oil & distillate stocks | 49,357,000 | 50,177,000 | 42,958,000 |
| Residual fuel oil stocks | 95,857,000 | 95,819,000 | 101,048,000 |

*Estimated, Bureau of Mines basis.

### Taylor Completes Repairs On Corpus Christi Plant

NPN News Bureau

TULSA, Jan. 3.—Taylor Refining Co.'s refinery at Corpus Christi is now back on stream. The No. 1 Rowsey unit, damaged by a fire and explosion has been rebuilt. This unit has capacity of 2500 bbls. per day of heavy crude. To rush completion, much of the material needed for rebuilding was obtained from the company's dismantled plant at Taylor, Tex.

### Pipeline Expansion Planned By Quaker State

NPN News Bureau

CLEVELAND, Jan. 3.—Expansion of its pipeline system is planned by Quaker State Oil Refining Corp., Oil City, Pa., including gathering lines in McKean County, near Bradford, a main line connecting the field with the company's present system, booster pumping stations, storage facilities and other equipment.

## ICC Calendar On Oil Trucking

**J. Ludwin Proulx, Epping, N. H., trading as Pure Motor Transportation**—Extension (MC-34930, Sub. No. 3)—Public Convenience and necessity found to require operation by applicant as a common carrier by motor vehicle of petroleum products in bulk, in tank trucks, over irregular routes, from Portland and South Portland, Me., to points in described New Hampshire territory and from Portsmouth, N. H., to points in a designated area in Maine. Issuance of a certificate approved upon compliance by applicant with certain conditions and application in all other respects denied.

* * *

**E. Brooke Matlack, Philadelphia, Pa.**—Extension (MC-80092, Sub. No. 1)—Operation by applicant as a contract carrier by motor vehicles, in interstate or foreign commerce, of liquid petroleum products, liquid coal-tar products, liquid fuels and solvents, in tank trucks, between specified points in New Jersey, New York, Pennsylvania, Delaware, Maryland, Virginia, and the District of Columbia, over irregular routes, found consistent with the public interest and the national transportation policy. Issuance of a permit authorizing described operations approved upon compliance by applicant with certain conditions, and application denied in all other respects.

# Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

## Refiners are Responding to the War Demand For Larger Volumes of Aviation Gasoline

By George B. Murphy, NPN Technical Editor

It is interesting to note that aviation gasoline continues to maintain the greatest interest in the minds of petroleum refiners, and that an increasing degree of co-operation is being shown between the Petroleum Coordinator's office and the refiners.

In this connection, there are two thoughts uppermost in the mind of the individual petroleum refiner. The first is concerned with methods he may utilize for the production of aviation gasoline without disrupting the balance of his refinery operations, and, the second is what will be the demand for aviation fuels after the war.

The first of these questions may be answered in a preliminary way by study of the diagrammatic flow sheet of processes related to 100-octane number aviation gasoline, carried on a following page of this issue. This schematic sheet combines in a single picture all the essential operating departments of the largest petroleum company in the world. The typical U. S. refinery shown will provide the country's fighting forces with the fuels and lubricants required by its mechanized equipment, as well as products for heating and illumination and asphalts for surfacing ground areas.

This plan proposes, however, in unseen words the three fundamental principles for success; namely, co-operation between individual units, of this petroleum organization, co-operation of the government and the industry, and sacrifice of present rewards. It also assumes that, if science is to feed the deadly weapons it has created for war, that it too must assist in the manufacture of the required petroleum products.

While this flow chart does not attempt to cover all the processing of individual hydrocarbons that may enter the 100-octane aviation gasoline picture, it does indicate that any individual refiner in the country has the necessary raw material available to manufacture the base stocks or blending agents required for aviation gasoline. By the application of the imagination and resourcefulness of any refiner's managerial and technical personnel, the individual company should be placed in a position to market a fuel meeting all specifications for this essential product.

Our airplane manufacturers have brought into production engines of 2000 horsepower—larger than those being manufactured anywhere else in the world. Our advanced pursuit bomber types are exploiting the advantage of this superior power. This young industry is supplying us with a strong air force backed by a strong industry.

Fully able to supply the fuel for these engines, is our petroleum industry, also strong technically and financially. However the real significance of our industry's contribution to the nation's war effort does not alone represent technical superiority. Oil's technical performance is the result of great leadership. The leaders of our oil industry are leaders of men. They utilize the principle of co-operation with their research departments, thereby obtaining the utmost in effort by offering the hope of reward in the form of American technical achievement.

Let us hope that this co-operative attitude of executives toward research will be continued in the field of manufacturing fighting grade aviation fuel. The processes for high-octane gasolines have been developed, but will their utilization after the war be considered of sufficient financial value to justify large volume commercial installations now? "Will we have obsolete plants on our hands?", is a question many economic experts are pondering and presenting to their board of directors.

Even if patriotic considerations alone will not justify expansion of refinery capacity for aviation gasoline output, in the opinion of many, the new plants will be afforded a large market during peace times. This demand will not only be for this type of fuel, but also perhaps for the new organic chemicals for the chemical manufacturing industry.

An optimistic viewpoint of the after-the-war period for aviation from the economic angle was presented to the stockholders of a large aircraft corporation in a recent report. We quote:

> "It is, of course, impossible to foretell the future of post-war aviation, but reasoning from analogy, we see certain potential opportunities. Following the Civil War there occurred a vast expansion of the railways. Within our own experience, we have seen similar transportation development in the use of the automobile following the last war. We believe that air transportation may expect a similar period of increased utilization and economic importance when the world returns to peacetime conditions."

Our industry undoubtedly will be required to supply a tremendously increased barrelage of aviation gasoline for civilian and commercial use after the war. We will

be prepared since alert companies of our industry have always realized that expenditure for research and development during periods of depression is handsomely rewarded during the coming periods of increased demand.

★ ★ ★

## Japan Has the Refineries But Lacks Crude Supply

While the Japanese stocks of aviation gasoline were sufficient to supply many plane-miles at approximately 2 miles per gallon when attacking Pearl Harbor, we wonder how long their present supply will last if consumed at this rate? Undoubtedly they have stored much fuel in underground and underwater tanks. A large part of this storage was probably built up before the U. S. government banned shipment of aviation fuel in December, 1939, to countries bombing undefended cities. One authority, Mr. Hugh Dalton, England's minister of economic warfare, after the Dec. 7th attack, estimated that Japan's oil storage was good for 14 months.

It is also possible that the Japs had some refining capacity to supply not only straight-run gasoline, of low end point, but perhaps processes for the manufacture of alkylate, hydrogenated codimers, and other methods to produce the high octane quality required.

It is known that prior to Jan. 1, 1940, representatives of their technical army and navy personnel took from the U. S. the design principles that might be applied to the manufacture of this product. In one particular report handed to the Japan Gasoline Co. it was shown that, based upon the once-through catalytic cracking of a 35.5° API light oil from Midway, California, crude, good aviation fuel could be produced. The report showed that if this charging stock and tetraethyl lead were available, they could obtain 42% by volume of the 92-octane (maximum 3.8 cc lead) aviation fuel specified. Whether or not a plant has been erected to carry out this type operation, only the Japanese know. It is certain that no such plants were designed or erected by American engineers.

Japan is a refinery minded nation. A tabulation as of May, 1940, prepared by the writer, showed a total of 20 petroleum refineries in 17 different locations, with a crude capacity 56,620 bbls. per day and a cracking capacity of 17,100 bbls. per day. While the production of crude has been listed as high as 7000 bbls. per day in Japan, it is doubtful if this capacity is available in the Japanese islands. Prior to the War, most of the Japanese crude supply was obtained from the U. S., Dutch East Indies, and the Russian half of Sakahalin Island. It is probable that these sources were greatly reduced in 1941 and that today Japan faces a severe shortage of crude.

### Flow Chart—Petroleum Industry Sources for Aviation Gasoline

**The chart shown on the opposite page was prepared by the Office of Petroleum Co-ordinator as an abstract report upon the raw materials and processes entering into the manufacture of essential petroleum products for war needs, with particular emphasis upon 100-octane aviation gasoline.**

**It is suggested that refiners and natural gasoline manufacturers use this chart as a reference tool to determine from time to time just how their company may supply a portion of the charging stocks or finished blending products required for aviation fuel. Detailed requirements may be obtained from contractors whom the OPC will be glad to recommend.**

★ ★ ★

## New Research Laboratory

The news that Standard Oil Co. of Ohio has erected a well-equipped research and development laboratory should be well received by the refining industry. The addition to this company's technical facilities not only provides more brain power for invention but sets a style that might be followed by more petroleum organizations—namely giving a helping hand to petroleum chemical research in a nearby university. Contributions from our technical schools to the refining art have been limited in the past partly because of lack of semi-works equipment but mainly because of lack of knowledge of our problems. If more Ph D theses were selected from petroleum chemistry the industry would benefit.

### Symposium on Applied Thermodynamics

The eighth annual chemical engineering symposium given under the direction of the Industrial and Enginering Division of the American Chemical Society was held at Case School of Applied Science, Cleveland, Dec. 29 and 30, 1941. The registration list contained the names of 116 chemical engineers and physical chemists from different parts of the country.

There were 13 papers presented and discussed covering the general subject of "Applied Thermodynamics". The authors and speakers were men of outstanding reputation among this country's scientists. For the few high-brow technologists affiliated with the petroleum refining industry whose training is adequate and up-to-date in calculus and the derivation of thermodynamic principles, abstracts of the papers were prepared. Professor C. C. Furnas of Yale University was chairman of the symposium committee.

### Extensive Data on Petroleum In Tulsa Public Library

What is said to be the largest and most complete collection of petroleum literature in the U. S. is maintained by the technical department of the Tulsa Public Library. It contains approximately 14,000 volumes. It receives over 300 technical magazines, 76 of which pertain to petroleum. Its card index upon petroleum numbers over 80,000 and is available to all research work.

Bradford A. Osborne, present head of the technical department, is a graduate of Georgetown University and Drexel Institute of Technology. He welcomes visits or inquiries from oil men in any part of the world.

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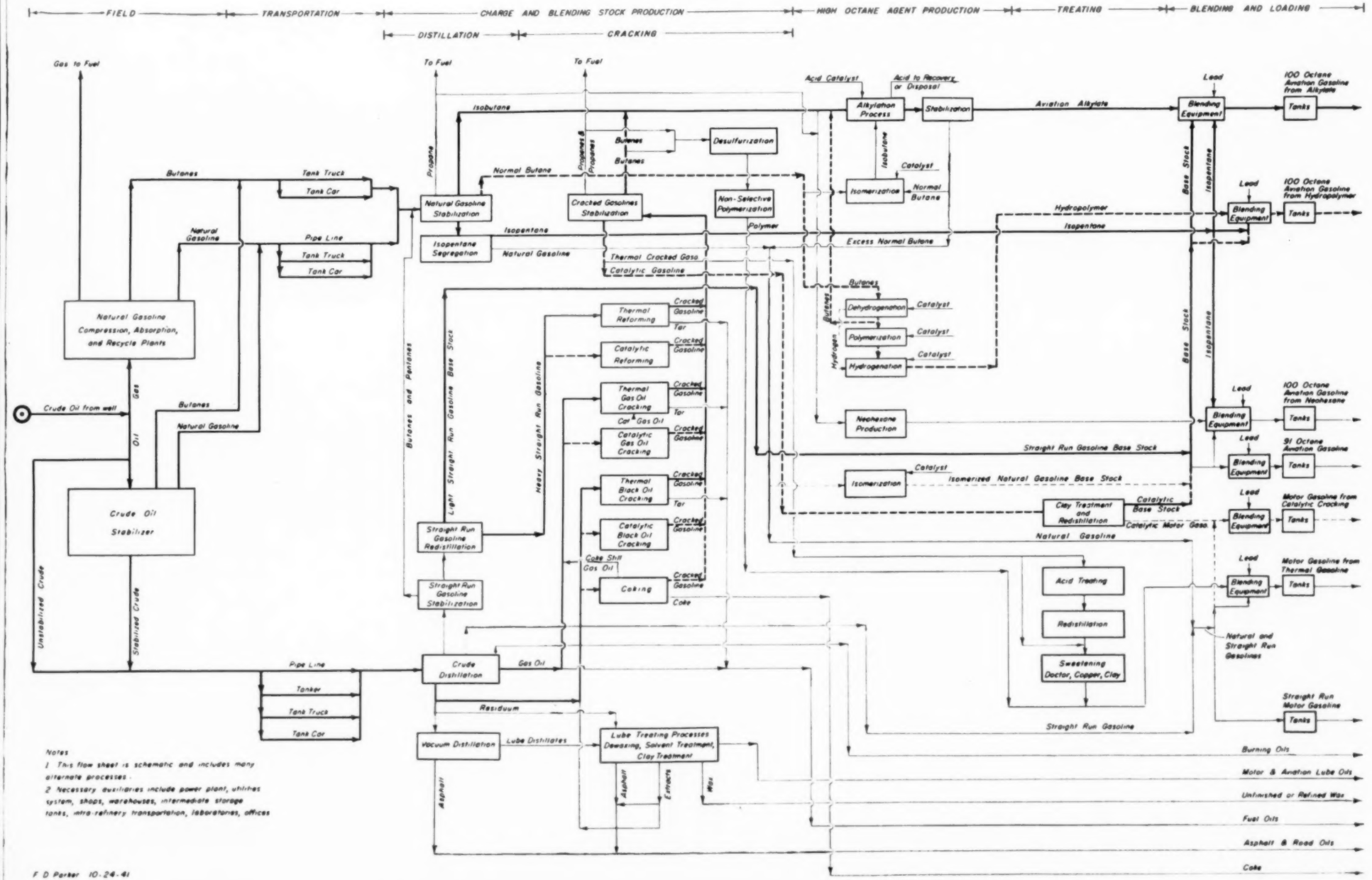
# DIAGRAMMATIC FLOW SHEET

ILLUSTRATING
PROCESSES RELATED TO PRODUCTION
OF AVIATION GASOLINE

OFFICE OF
PETROLEUM COORDINATOR FOR NATIONAL DEFENSE
REFINING DIVISION




Notes

1. This flow sheet is schematic and includes many alternate processes.
2. Necessary auxiliaries include power plant, utilities system, shops, warehouses, intermediate storage tanks, intra-refinery transportation, laboratories, offices

F. D. Porter 10-24-41

# ALKYLATION—Oil Industry's Contribution To War Requirements of Aviation Fuel

By George B. Murphy, NPN Technical Editor

**The following article is intended to present in a general way the principles of the sulphuric acid alkylation process, in order to allow the average refiner to determine if his company is in a position to install a plant.**

**There has been very little published upon this process since it was first introduced in the development stage in 1939. The method today assumes great importance for the manufacture of a high octane blending agent for fighting grade aviation fuel, and the government has recommended that the process be standardized and offered to all refiners upon a reduced royalty basis.**

**This article discusses the principles of chemistry involved, plant operating conditions, general requirements for charging stocks and installation and operating costs briefly. The summary gives general data upon capacities, yields, operation and quality of the finished product, although actual data from individual operating plants are not available.**

**For more specific information upon the subject, the refiner is referred to Wright W. Gary, Director of the Refining Division of the Office of Petroleum Co-ordinator, Washington.**

IN general the alkylation process consists of the synthesis of an iso-paraffin hydrocarbon with an olefin, in the presence of a catalyst, to produce alkylates, the blending agents used in the manufacture of 100-octane aviation gasoline. At present the most widely used catalyst is sulphuric acid. While other catalysts, such as hydrofluoric acid, phosphoric acid and aluminum chloride may have possibilities, sulphuric acid is the only one now being used commercially.

In alkylation, the paraffin must be an iso-hydrocarbon, while any olefin may be used. The most commonly used hydrocarbons are butene and isobutane in which the desired reaction is as follows:

$$C_4H_8 + i-C_4H_{10} = C_8H_{18}$$

The yield of iso-octane, based upon the gallonage charged, is about 80%. All products from alkylation are mixtures and the remainder of the yield consists of $C_5$, $C_6$, and $C_7$ paraffin hydrocarbons.

The exact mechanism of the reaction for the formation of higher paraffin is not well known. Probably the initial reaction is the polymerization of the olefin with the subsequent breaking down of the polymer to other olefins. These olefins may then alkylate the original iso-paraffins to produce higher paraffins. The following reactions show the possible mechanism of the side reaction for the formation of pentane.

$$C_4H_8 + C_4H_8 = C_8H_{16}$$
$$C_8H_{16} = C_3H_{10} + C_5H_6$$
$$C_5H_{10} + i-C_4H_{10} = C_9H_{12} + C_4H_8$$

With a weak acid as catalyst, such as 92% sulphuric acid, the reaction is pure polymerization. Therefore, higher concentrations of acid are required, such as 100% sulphuric acid, when the products formed become more saturated. The distillation range of the product flattens and hydrocarbons in the lower boiling range are formed.

The similar desired effect is produced by using a large excess of isobutane, such as about 5 parts of isobutane to one of the olefin. It is undesirable to use an acid whose concentration is above 100% because oxidation takes place, with a liberation of SO2.

## Operating Conditions

Temperatures of the order of 100 to 40°F. may be used to carry out the reaction. Lower temperatures have an advantage in that the catalyst's life is prolonged and the undesirable side reactions are decreased. This temperature control is usually obtained by ammonia refrigeration. Propane may be used for the same purpose, but it is believed that ammonia is more economical. The contact time should be set for 20 to 30 minutes, since any shorter contact time produces high boiling, unsaturated products.

The design of the plant is almost identical to that of the hot acid selective polymerization unit, and the ratio of acid to liquefied hydrocarbon gases is similar. A large excess of acid should be avoided since emulsions will result, which are difficult to break.

Only sufficient pressure is used to keep the hydrocarbon in a liquid state and is usually set between 40 and 50 pounds per square inch. The plant should be designed, however, to withstand a pressure of about 150 pounds per square inch.

## Separation of the Reaction Products

In alkylation, no problems of ester formation arise, since the sulphuric acid and reaction products may be separated by gravity. A treatment with a dilute caustic wash at ordinary temperature is required, however, to remove the last traces of the acid. The product is free from sulphur. The first step in the separation is to remove the unreacted butanes from the alkylate. All the butenes have reacted. The excess of isobutane is fractionated from the normal butane and recirculated back to the unit. The purity of this separated isobutane is about 80%. Its boiling point is 10°F, while that of normal butane is 31°F, calling for precise design of the fractionating equipment.

Separation of hydrocarbons lighter than butane may be required to prevent increase of pressure throughout the system. Therefore, a depropanizer is installed after the alkylate debutanizer to remove these lighter gases for use as fuel.

The alkylate bottoms from the debutanizer are pumped to a fractionation column for removal of any high boiling alkylate. Approximately 90 to 95% of the overhead product is octane or lighter, while the balance nonane or heavier, may be pumped to storage for use in regular grade gasoline. The yield of this overhead alkylate expressed as the percentage by weight of olefins fed to the plant may experimentally range between 220 and 260%. The octane number of this product may be as high as 94 with strong acid as catalyst, and as low as 91 when the acid becomes weaker.

## General Requirements

The alkylation process depends upon an abundant supply of isobutane. Most refinery gases contain isobutane and olefins, but do not supply sufficient isobutane to react

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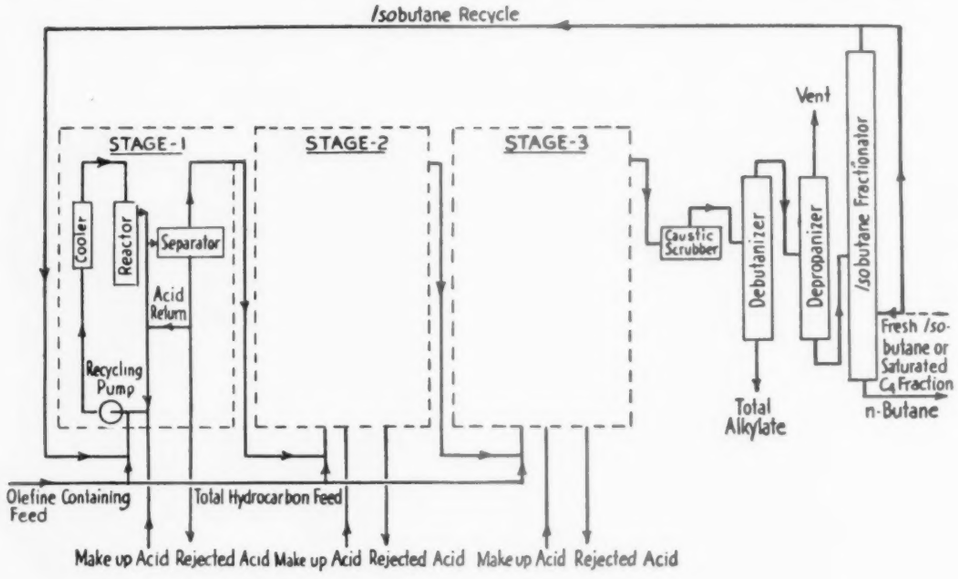



Flow diagram—three-stage sulfuric-acid alkylation plant, split-olefin feed

with all of the olefins. Therefore, either an outside source of isobutane must be obtained, or an isomerization unit installed to convert the normal into the iso compound. Such a process was described in the Refining Technology of December 24, 1941. Among the first companies to install alkylation units were the Humble Oil & Refining Co., Shell Oil Co., and The Texas Co. Since that time other companies have installed this process for the manufacture of blending agents going into 100 octane aviation fuel.

The installation cost of an alkylation plant may range between $300 and $500 per barrel per day capacity, depending on its size. The operating cost may vary between one and five cents per gallon of alkylate. The cost of the acid included in this figure—at about $20 per ton—is based upon the consumption of one pound per 1.2 gallons of alkylate.

The separation of the butanes is important. A 50-50 mixture of these compounds, charged to a 44-plate fractionating column, operating at 80 pounds per square inch with a bottom temperature of 140°F. and a top temperature of 120°F, provides an overhead containing 88% isobutane and a bottom containing 14% of that product. This indicates that a high percentage of the total installation cost of an alkylation plant is concerned with the fractionation equipment required. This cost may constitute 50% of the total.

The alkylation process has been developed by two different groups in the United States. The first, consisting of The Texas Co., Shell Co., and Universal Oil Products Co., have designated UOP as the licensing agent; while the other, consisting of Anglo-Iranian Oil Co., of England, Standard Oil Co. of New Jersey and the M. W. Kellogg Co., have appointed Kellogg as the licensing company of this group. There are many construction companies in a position to erect alkylation plants.

It should be noted that Petroleum Co-ordinator Ickes, in his recommendation No. 23 on Dec. 23rd, addressed to the above two groups of licensors, requested that they standardize the design and operation of alkylation plants. These companies agreed to co-operate and set the royalty at 21c per barrel, being a reduction from the present rate of 42c per barrel, and to further reduce this figure to 15c per barrel as of July 1, 1943. This royalty will apply only to alkylate as sold to the United States forces. The royalty will be 30c per barrel alkylate for "normal or unrestricted commercial production."

## Summation

A review of the various phases of the alkylation process indicates the following as its present status:

**Charging Stocks:** Isobutane and gaseous olefins. It has been stated that for each part of olefins by weight, 1.2 parts of isobutane are required.

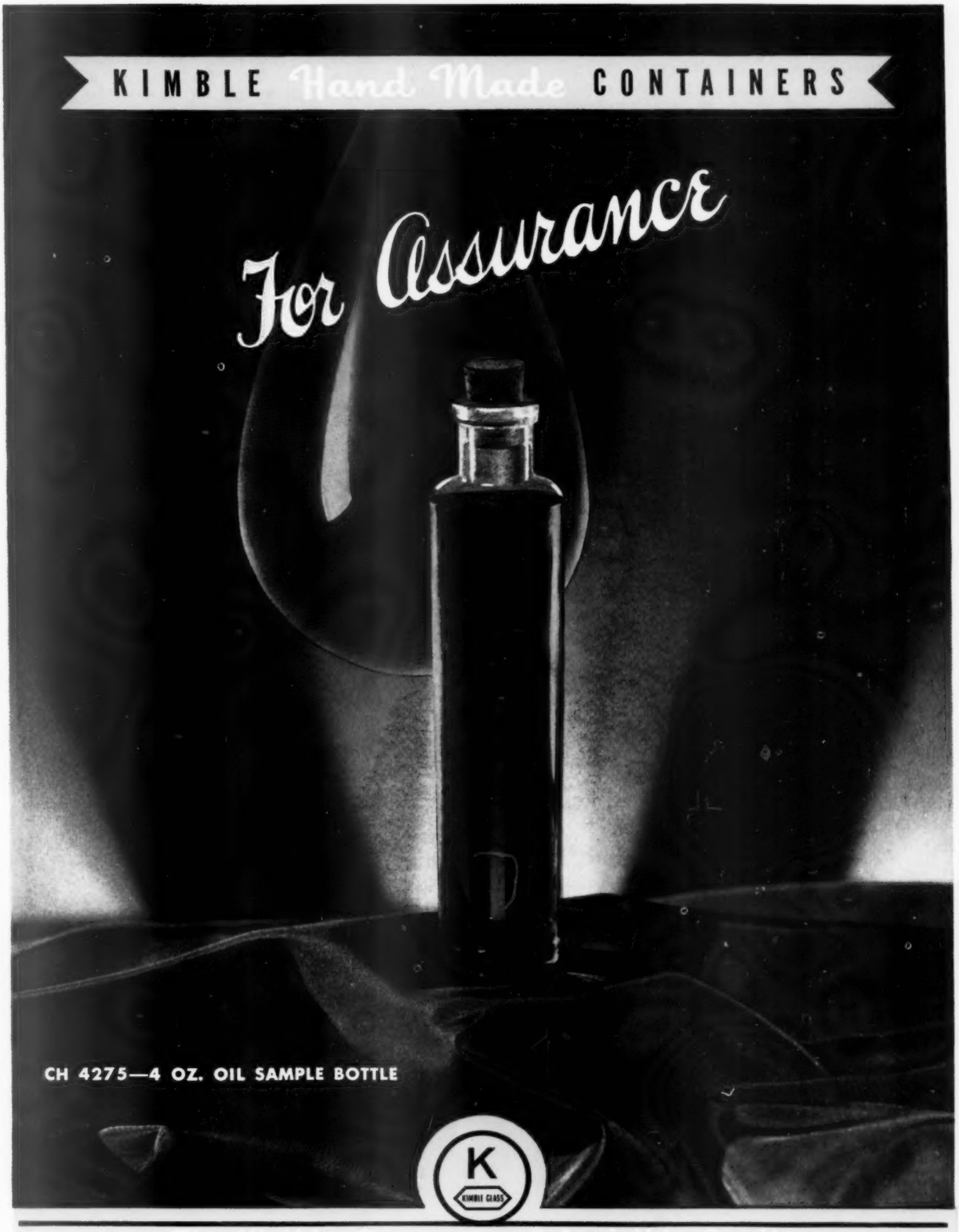
**Combined Feed Stock** passing through the unit, should consist of an isobutane to olefin ratio of at least 5 to 1. Therefore, while a typical fresh feed charging stock in a refinery may consist of 5.5% propylene, 26% butylenes, 16.1% isobutane, and 52.4% of other paraffins, it will be necessary to increase the amount of isobutane from outside sources and by recycling to maintain this ratio in the reactor.

**Capacity:** is an important figure to the average refiner. Perhaps the smallest unit that should be erected is one with a combined feed rate of 300 barrels per day, or an alkylate production of 100 barrels per day.

**Yields:** It is difficult to obtain average percent yields, since the figures vary widely with the quality of the charging stock. Most yields are expressed as percent by weight of the olefins charged, and upon this basis indicate an average result of 200% by weight of alkylate. The paper on alkylation presented before the API, Nov. 17, 1939, shows that 200-215% by weight of total alkylate based on olefins in the feed was obtained in one case. Upon a volume basis, this percentage is 168-180. Nelson, in his book on Petroleum Refining Engineering, states that the average yield should be between 185-215% by weight, while E. W. Gard, in his paper on alkylation (NPN Nov. 29, 1939) gives a figure of 130% by volume. Contractors can estimate the yield if the quality of the charging stock is submitted.

**Operation:** In the attached flow diagram and in the accompanying photographs of the Continental Oil Co.'s alkylation plant, the olefin containing feed is mixed with the proper quantity of isobutane, cooled and fed to the reactor. After separation of the sulphuric acid and its return to the reactor the product is neutralized with caustic solution and fractionated in a debutanizer. The overhead (lighter than pentane and free of olefins) is separated in a depropanizer to remove light gases. The butanes are then charged to another fractionater to recycle the overhead isobutane and to remove the normal butane bottoms. The alkylate bottoms from the debutanizer are further separated in a rerun column to an aviation boiling range overhead (approximately 96%) and a heavy naphtha alkylate bottom.

**Operating Conditions:** Many factors vary the operating conditions required in an alkylation unit, dependent mainly

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upon the quality of the feed stock, but some general data may be drawn from all plants as tabulated below:

| | |
|---|---|
| Temperature in reactor | 32 to 50°F. |
| Pressure in reactor | 30 to 50 lbs. (liquid phase) |
| Time in reactor | 20 to 50 minutes |
| Ratio isoparaffin to olefin | 5 to 1 or higher |
| Acid strength in reactor | 88 to 90% |
| Make up acid strength | 96 to 100% |
| Make up acid used | 1-2 lbs. per gal. alkylate |
| Ratio volume acid to hydrocarbons | One to one |
| Contact acid and hydrocarbon | Intimate emulsion |

**Quality Alkylate Product (varies)**

| | |
|---|---|
| Gravity °API | 68-69 |
| IBP | 120-140°F |
| 10% | 180-190°F |
| 50% | 210-230°F |
| 90% | 240-260°F |
| E. P. | 300°F |
| Unsaturation % | Small |
| Sulphur % | Trace |
| R.V.P. lbs. per sq. in. | 3 to 4 |
| Octane No. (ASTM) | 92 |
| Cc Lead for 100 O.N. | 0.6 |

In conclusion, we would recommend that all refiners who believe they have the necessary isbutane and olefins to erect an alkylation unit contact one of the licensing agencies and if possible, visit an operating plant to study the possibilities of manufacturing alkylate for wartime needs. If the refiners then believe they are in a position to erect such a unit, the matter should be called to the attention of Wright W. Gary of the Petroleum Co-ordinator's office in Washington, so that he may assist, if necessary, in speeding up the project.

**Bibliography:** The following, while not intended as a complete bibliography on alkylation, may be of use to readers for further study on the subject.

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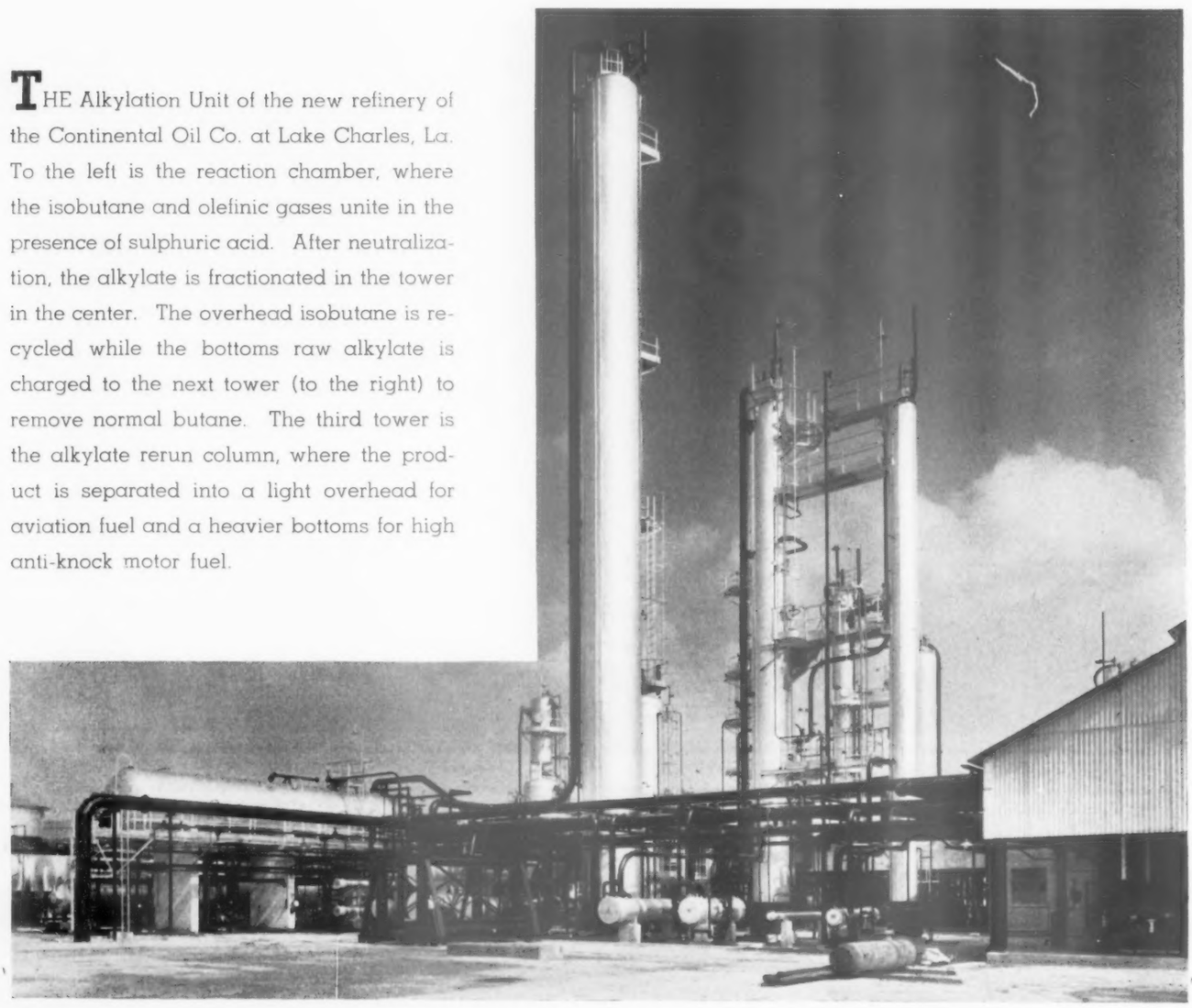

THE Alkylation Unit of the new refinery of the Continental Oil Co. at Lake Charles, La. To the left is the reaction chamber, where the isobutane and olefinic gases unite in the presence of sulphuric acid. After neutralization, the alkylate is fractionated in the tower in the center. The overhead isobutane is recycled while the bottoms raw alkylate is charged to the next tower (to the right) to remove normal butane. The third tower is the alkylate rerun column, where the product is separated into a light overhead for aviation fuel and a heavier bottoms for high anti-knock motor fuel.

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What properties should a perfect inhibitor possess to keep the gum all out of cracked gasoline, the anti-knock value all in?

1—It should be super-potent, a few drops doing a mighty job

2—It should be miscible in all proportions with cracked gasoline

3—It should be entirely water-proof so that water can't drown it out

4—It should be poison-proof so caustic can't affect it

5—It should be low-priced, considering the job it does

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# Lubricating Oil Specifications Of British Petroleum Mission

Specifications for lubricating oils of the British Petroleum Mission, under which the wartime requirements of that government are purchased from oil companies in this country, are published below, in the same form in which light and fuel oil specifications, and those for a few other products, were published in the Dec. 24th issue of Refining Technology.

The lubricating oil specifications have been in effect since Aug. 28, and it is understood that no revisions are contemplated. Purchasing is generally under contract, on prices determined from bids by oil companies as called for by the Purchases and Accounts Division, U. S. Navy Department. A limited amount of spot buying is done.

The lubricating oil specifications listed here, with a few exceptions, all carry the provision:

**"This oil to be mineral oil only. It shall be free from water, suspended matter and other impurities. It shall be free from inorganic acidity."**

The exceptions to this general stipulation are, hydraulic oil, transformer oil, mineral jellies, snow white petrolatum, amber petrolatum, medicinal white oil and white oil, light.

### 300° BURNING OIL (Pool Lub. No. 1)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 38.0 | ..... |
| Flash Point, PMCC, °F. | 250 | ..... |
| Fire Point, COC, °F. | 300 | ..... |
| Pour Point, °F. | ... | 35 |
| Viscosity, SU @ 100°F., sec. | ... | 45 |
| Color, Saybolt | Not darker than plus 16 | |
| Burning Quality, hours | 20 (Note 1) | |

**Note 1:** At the end of the burning test, the flame shall not be smoky, the chimney shall be clear or only slightly clouded, and no appreciable hard incrustation shall be on the wick.

### TRANSFORMER OIL BASE STOCK (Pool Lub. No. 2)

**Must be suitable for production of British Standard Specification No. 148(1933), Class B-30, Transformer Oil by acid and Clay Treatment**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 28.5 | ..... |
| Flash Point, PMCC °F. | 300 | ..... |
| Pour Point, °F. | ... | Minus 35 |
| Viscosity, SU @ 100°F., sec. | 75 | 80 |
| Color, A.S.T.M. | ... | 1 |
| Neutralization No., mgKOH/g | ... | 0.05 |
| Aniline Point, °F. | 180 | ..... |

**Note 1:** Aniline Point is determined as described in Appendix II, page 14 of the 1940 Edition of A.S.T.M. Standards on Petroleum Products and Lubricants, as prepared by Committee D-2.

### 100 SPINDLE OIL (Pool Lub. No. 3a)

**Must be paraffinic type.**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 27.5 | ..... |
| Flash Point, PMCC, °F. | 340 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100°F., sec. | 100 | 125 |
| Color, A.S.T.M. | ... | 2 |
| Neutralization No. mgKOH/g | ... | 0.1 |

### 100 SPINDLE OIL (Pool Lub. No. 3b)

**Must be Naphthenic Type**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | ... | 26.0 |
| Flash Point, PMCC, °F. | 300 | ..... |
| Pour Point, °F. | ... | Minus 20 |
| Viscosity, SU @ 100° F., sec. | 100 | 125 |
| Color, A.S.T.M. | ... | 2½ |
| Neutralization No. mgKOH/g. | ... | 0.1 |

### 150 NEUTRAL (Pool Lub. No. 5a)

**Must be wholly non-solvent treated, conventionally refined Penna.**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 30.8 | ..... |
| Flash Point, PMCC, °F. | 395 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 145 | 155 |
| Viscosity—Index | 95 | ..... |
| Color, A.S.T.M. | ... | 2½ |
| Sulphur by bomb, % by wt. | ... | 0.2 |
| Neutralization No. mgKOH/g. | ... | 0.1 |

### 150 NEUTRAL (Pool Lub. No. 5b)

**May be solvent treated**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 30.8 | ..... |
| Flash Point, PMCC, °F. | 395 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 145 | 160 |
| Viscosity—Index | 90 | ..... |
| Color, A.S.T.M. | ... | 2 |
| Neutralization No. mgKOH/g | ... | 0.1 |
| Corrosion | Negative | |

### 150 NEUTRAL (Pool Lub. No. 5c)

**Must be non-solvent treated**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 27.5 | ..... |
| Flash Point, PMCC, °F. | 380 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 145 | 200 |
| Viscosity—Index | 80 | ..... |
| Color, A.S.T.M. | ... | 2½ |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| Sludging Value % by wt. | ... | 1.2 (Note 1) |

**Note 1:** Sludging value shall be determined by I.P.T. Method Serial number T.O. 21. (This test is also described in British Standard Specification No. 148 (1933) for transformer oil.)

### 150 NEUTRAL (Pool Lub. No. 5d)

**May be solvent treated**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 27.5 | ..... |
| Flash Point, PMCC, °F. | 380 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 145 | 200 |
| Color, A.S.T.M. | ... | 2½ |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| Sludging Value, % by wt. | ... | 1.2 (Note 1) |

**Note 1:** Sludging value shall be determined by I.P.T. method, Serial Number T.O. 21. (This test is also described in British Standard Specification No. 148 (1933) for Transformer Oil).

### 200 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 6)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC °F. | 325 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, S.U. @ 100° F., sec. | 180 | 220 |
| Color, A.S.T.M. | ... | 6 |
| Neutralization No. mgKOH/g | ... | 0.1 |

### 509 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 8a)

**Paraffinic type**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 24.0 | ..... |
| Flash Point, PMCC, °F. | 390 | ..... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 460 | 510 |
| Color, A.S.T.M. | ... | 6 |
| Neutralization No. mgKOH/g. | ... | 0.1 |

## FSB and ASTM Methods Of Test Designated

**Test methods for the determination of specifications for petroleum products purchased by the British Petroleum Mission, in most cases are those of the Federal Specifications Board of our own government and of the American Society for Testing Materials. The methods designated are as follows:**

| | FSB | ASTM |
|---|---|---|
| Gravity @ 60 F., API | 40.1 | D 287-39 |
| Flash Point, PMCC, deg. F. | 110.22 | D 93-40 |
| Fire Point, COC, deg. F. | 110.33 | D 92-33 |
| Pour Point, deg. F. | 20.15 | D 97-39 |
| Viscosity Index | | D 567-40T |
| Viscosity, SU | 30.43 | D 88-38 |
| Vis., Kin. @ 32 deg. F., centistokes | | D 445-39T |
| Color Saybolt | 10.12 | D 156-38 |
| Color, ASTM | 10.22 | D 155-39T |
| Burning Quality, hours | 210.43 | D 239-30 |
| Neutralization No., mg KOH/g | 510.31 | D 188-27T |
| Sulphur by bomb, % by weight | 520.22 | D 129-39 |
| Corrosion | 530.31 | |
| Precipitation number | 310.11 | D 91-40 |
| Unsulfonated residue, % by vol. | | D 483-40 |
| Distillation | | D 447-40T |
| Reaction | 510.1 | |

**Further information on specifications and test methods may be secured from W. Piercy, head of the British Petroleum Mission, Washington.**

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# Lubricating Oil Specifications of British Petroleum Mission

## 500 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 8b)

**Naphthenic type**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | ... | 23.5 |
| Flash Point, PMCC, °F. | 360 | ... |
| Pour Point, °F. | ... | Zero |
| Viscosity, SU @ 100° F., sec. | 500 | 550 |
| Color, A.S.T.M. | ... | 6 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## 1200 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 9)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC °F. | 390 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 210° F., sec. | 70 | 80 |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## 2000 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 10a)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 400 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 100° F., sec. | 1750 | ... |
| Viscosity, SU @ 210° F., sec. | 85 | ... |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## 2000 GENERAL PURPOSE LUBRICATING OIL (Pool Lub. No. 10b)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 400 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 210° F., sec. | 110 | ... |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## HIGH GRADE MOTOR OIL (Pool Lub. No. 11)

**Must contain a minimum of 5% Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 400 | ... |
| Pour Point, °F. | ... | Minus 5 |
| Viscosity, SU @ 210° F., sec. | 52 | 57 |
| Viscosity—Index | 100 | ... |
| Color, A.S.T.M. | ... | 5 |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| British Air Ministry Oxidation Test. | | |
| Specification D.T.D. 472 | | |
| Coke (a) Note 1 | ... | 0.4 |
| Coke (b) Note 1 | ... | 1 plus coke (a) |
| Viscosity Ratio | ... | 2.0 |

**Note 1:** Ramsbottom Coke may be determined by A.S.T.M. Method D524-40T.

## MOTOR OIL BLENDING STOCK (Pool Lub. No. 12a)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 400 | ... |
| Pour Point, °F. | ... | 10 |
| Viscosity, SU @ 100 °F., sec. | 500 | 550 |
| Color, A.S.T.M. | ... | 5 |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| British Air Ministry Oxidation Test. | | |
| Specification D.T.D. 472 | | |
| Coke (a) Note 1 | ... | 0.5 |
| Coke (b) Note 1 | ... | 1 plus coke (a) |
| Viscosity Ratio | ... | 2.0 |

**Note 1:** Ramsbottom Coke may be determined by A.S.T.M. Method D524-40T.

## MOTOR OIL BLENDING STOCK (Pool Lub. No. 12b)

**Must contain a minimum of 10% Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 400 | ... |
| Pour Point, °F. | ... | 5 |
| Viscosity, SU @ 100° F., sec. | ... | 550 |
| Viscosity, SU @ 210° F., sec. | 64 | ... |
| Color, A.S.T.M. | ... | 5 |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| British Air Ministry Oxidation Test. | | |
| Specification D.T.D. 472 | | |
| Coke (a) Note 1 | ... | 0.5 |
| Coke (b) Note 1 | ... | 1 plus coke (a) |
| Viscosity Ratio | ... | 2.0 |

**Note 1:** Ramsbottom Coke may be determined by A.S.T.M. Method D524-40T.

## MOTOR OIL BLENDING STOCK (Pool Lub. No. 13)

**Must contain a minimum of 10% Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 430 | ... |
| Pour Point, °F. | ... | 5 |
| Viscosity, SU @ 210° F., sec. | 83 | 87 |
| Viscosity—Index | 95 | ... |
| Color, A.S.T.M. | ... | 5 |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| British Air Ministry Oxidation Test. | | |
| Specification D.T.D. 472 | | |
| Coke (a) Note 1 | ... | 0.5 |
| Coke (b) Note 1 | ... | 1 plus coke (a) |
| Viscosity Ratio | ... | 2.0 |

**Note 1:** Ramsbottom Coke may be determined by A.S.T.M. Method D524-40T.

## HYDRAULIC OIL (Pool Lub. No. 14)

**(See Note 1)**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 290 | ... |
| Pour Point, °F. | ... | Minus 50 |
| Viscosity, Kinematic @ 32° F. centistokes | ... | 120 |
| Viscosity, Kinematic @ 100° F., centistokes | 13.0 | ... |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| Aniline Point, °F., before extraction (Note 2) | 185 | ... |
| Increase in Aniline Point, °F. after extraction (Note 3) | ... | 10 |
| Reaction | ... | Neutral |

**Note 1:** This conforms to the mineral component of British Air Ministry specification D.T.D. 44D.

**Note 2:** Aniline Point is determined as described in Appendix II, page 14 of the 1940 Edition of A.S.T.M. Standards on Petroleum Products and Lubricants, as prepared by Committee D-2.

**Note 3:** The method of extraction will be as follows: Fifty ml. of the oil shall be placed in a 500 ml. separating funnel with an equal volume of 98 per cent sulphuric acid, and mechanically shaken at ordinary room temperature for ten minutes at the rate of not less than one stroke per second.

The sulphuric acid shall then be run off and replaced by 50 ml. of fresh acid, and the separating funnel shaken for another ten minutes. The above operations shall be repeated until the oil has been extracted eight times.

The oil shall then be treated with anhydrous sodium carbonate, filtered, and then dried over anhydrous calcium chloride for three hrs. and the aniline point determined.

## 150 BRIGHT STOCK (Pool Lub. No. 16)

**Must be Wholly Conventionally Refined Pennsylvania Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 26.0 | ... |
| Flash Point, PMCC, °F. | 500 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 210° F., sec. | 145 | 155 |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.1 |

## 160 BRIGHT STOCK (Pool Lub. No. 17a)

**Must be 150-160D Mid-Continent Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 21.5 | ... |
| Flash Point, PMCC, °F. | 500 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 210° F., sec. | 160 | ... |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## 200 BRIGHT STOCK (Pool Lub. No. 17b)

**Must be 200D Mid-Continent Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 21.5 | ... |
| Flash Point, PMCC, °F. | 500 | ... |
| Pour Point, °F. | ... | 30 |
| Viscosity, SU @ 210° F., sec. | 200 | ... |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.2 |

## SPECIAL BRIGHT STOCK (Pool Lub. No. 19)

**Must be Solvent Treated Bright Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 25.5 | ... |
| Flash Point, PMCC, °F. | 500 | ... |
| Pour Point, °F. | ... | 10 |
| Viscosity, SU 210° F., sec. | 145 | ... |
| Viscosity—Index | 95 | ... |
| Color, A.S.T.M. | ... | 8 |
| Neutralization No. mgKOH/g. | ... | 0.1 |
| British Air Ministry Oxidation Test | | |
| Spec. D.T.D. 472 | | |
| Coke (a) Note 1 | ... | 0.8 |
| Coke (b) Note 1 | ... | 1 plus coke (a) |
| Viscosity Ratio | ... | 2.0 |

**Note 1:** Ramsbottom Coke may be determined by A.S.T.M. Method D524-40T.

## 180 CYLINDER STOCK (Pool Lub. No. 20)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 500 | ... |
| Pour Point, °F. | ... | 80 |
| Viscosity, SU @ 210° F., sec. | 180 | ... |
| Precipitation No. | ... | 0.4 |

## 150 CYLINDER STOCK (Pool Lub. No. 21)

**Must be Pennsylvania 600 S.R. Residual Cylinder Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 25.0 | ... |
| Flash Point, PMCC °F. | 500 | ... |
| Pour Point, °F. | ... | 60 |
| Viscosity, SU @ 210° F., sec. | 150 | ... |
| Precipitation No. | ... | 0.1 |

## 220 CYLINDER STOCK (Pool Lub. No. 22a)

**Must be Pennsylvania 650 S. R. Residual Cylinder Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60°F., °API | 24.0 | ... |
| Flash Point, PMCC, °F. | 550 | ... |
| Pour Point, °F. | ... | 50 |
| Viscosity, SU @ 210° F., sec. | 220 | ... |
| Precipitation No. | ... | 0.1 |

## 280 CYLINDER STOCK (Pool Lub. No. 22b)

**Must be Pennsylvania 630 Flash S. R. Residual Cylinder Stock**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 23.0 | ... |
| Flash Point, PMCC, °F. | 565 | ... |
| Pour Point, °F. | ... | 50 |
| Viscosity, SU @ 210° F., sec. | 280 | ... |

## BLACK OIL (Pool Lub. No. 23)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 300 | ... |
| Pour Point, °F. | ... | 10 |
| Viscosity, SU @ 210° F., sec. | 65 | 75 |

## TRANSFORMER OIL (Pool Lub. No. 24)

Must comply with British Standard Specification No. 148(1933), Class B-30, Transformer Oil, with the exception of dielectric strength, which is waived.

The cold test may be measured as A.S.T.M. Pour Point, Method D97-39 in which case it shall not be above minus 25° F.

The Viscosity may be measured by A.S.T.M. method D445-39T, in which case it shall not exceed 49.0 centistokes @ 60° F.

## PETROLATUM (Pool Lub. No. 25)

To conform to British Ministry of Supply Specification No. CS/1317. "Mineral Jelly G.S."

### MINERAL JELLY, G.S.

**Approved 20th June, 1940**

1. **General.** The Mineral Jelly, G. S. must comply in every respect with the terms of this specification.
2. **Description.** The Mineral Jelly, G. S. must consist wholly of a genuine petroleum residue without any foreign admixture. It must be of uniform consistency and free from scales, specks, grit, water and visible impurities.
3. **Examination.** Samples taken from any portion of the supply must comply with the following requirements:
   (a) **General.** The material must comply with the requirements of para. 2 above.
   (b) **Volatile Matter.** The loss in weight on heating 20 grams of the material in a shallow, flat-bottomed dish approximately 90 m.m. in diameter at 100° C. (212° F.) for 6 hours must not exceed 0.2 per cent.
   (c) **Ash.** The ash obtained on ignition of the material must not exceed 0.03 per cent.
   (d) **Mineral Acidity.** When 50 grams of the material are thoroughly extracted by shaking with 100 ml. neutral distilled water at 70° C. (158° F.), the separated aqueous layer must not be acid in reaction to methyl orange.
   (e) **Organic Acidity and Saponifiable Matter.** The material must not contain organic acids or saponifiable matter in excess of the equivalent of 0.01 and 0.1 part respectively of potassium hydroxide (KOH) per 100 parts by weight of matter.
   (f) **Drop Point.** The drop point, as determined by the Standard Method of the Institute of Petroleum Technologists (Serial Designation L.G.11) must not be lower than 45° C. (113° F.) and not higher than 60°C. (140° F.).
   (g) **Flash Point.** The Flash-Point (closed test, Pensky-Martens) must not be lower than 204° C. (400° F.).

## PETROLATUM (Pool Lub. No. 26)

To conform to British Ministry of Supply Specifications No. CS/1318, for "Mineral Jelly Special".

### MINERAL JELLY, SPECIAL

**Approved 20th July, 1940**

Specifications are identical with those for MINERAL JELLY G.S., (Pool Lub. No. 25) except that a test for Bromine Value is given, as follows: "(h) Bromine Value, determined by the method described in the Appendix, must not be below 75, nor above 110." (Copy of this test method may be secured from W. Piercy, Head of the British Petroleum Mission, Washington.)

## SNOW WHITE PETROLATUM

## (Pool Lub. No. 27)

Must conform to British Pharmacopoeia, 1932, Specification for "White Soft Paraffin".

### PARAFFINUM MOLLE ALBUM

**(Paraff. Moll. Alb.)**
**White Soft Paraffin**

White Soft Paraffin is a mixture of semi-solid hydro-carbons, obtained from petroleum, and bleached.

**Characters:** A white, translucent, soft mass, unctuous to the touch, not more than slightly fluorescent by daylight, even when melted; odourless, when rubbed on the skin; tasteless.

**Tests for Purity:** Refractive index at 60°, 1.453 to 1.460 melting-point 40° to 46°.

In other respects White Soft Paraffin has the Characters, and complies with the Tests for Purity, described under 'Paraffinum Molle Flavum'. (See Pool Lub. No. 28).

## AMBER PETROLATUM

## (Pool Lub. No. 28)

Must conform to British Pharmacopoeia, 1932, Specification for "Yellow Soft Paraffin".

### PARAFFINUM MOLLE FLAVUM

**(Paraff. Molle Flav.)**
**Yellow Soft Paraffin**

Yellow Soft Paraffin is a mixture of semi-solid hydro-carbons, obtained from petroleum.

**Characters.** A pale yellow to yellow, translucent, soft mass, unctuous to the touch, not more than slightly fluorescent by daylight, even when melted. Free, or nearly free, from odour and taste.

Insoluble in water, and in alcohol (90 per cent); soluble in ether, and in chloroform.

**Tests for Purity.** Refractive index at 60°, 1.460 to 1.474; melting-point, 38° to 46°.

Volatilises, when heated, without emitting an acrid odour.

Boil 5 grammes with 10 millilitres of alcohol (90 per cent); the alcohol is not coloured yellow, and is not acid to litmus.

Boil 10 grammes with 20 millilitres of solution of sodium hydroxide for ten minutes, and allow the aqueous layer to separate; the aqueous layer yields no precipitate or oily matter, when acidified with sulphuric acid (absence of fixed oils, of soaps, and of resin).

Leaves, on incineration, not more than 0.05 per cent of residue.

## MEDICINAL WHITE OIL

## (Pool Lub. No. 29)

**Must conform to British Pharmacopoeia, 1932, Specification for "Liquid Paraffin", with the exception of gravity and viscosity, which are specified below**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity at 60° F., °A.P.I. | 27.5 | 28.5 |
| Viscosity, S.U. at 100° F., sec. | 340 | ..... |

### PARAFFINUM LIQUIDUM

**(Paraff. Liq.)**
**LIQUID PARAFFIN**

Liquid Paraffin is a mixture of liquid hydrocarbons, obtained from petroleum.

**Characters:** A transparent, colourless, oily liquid, free from fluorescence by daylight, almost odourless and tasteless.

Insoluble in **water,** and in **alcohol (90 per cent.)** soluble in **ether** and in **chloroform.**

Remains clear when dried, cooled, to 0° and kept at that temperature for four hours (limit of solid paraffins).

Place 5 millilitres with 5 millilitres of nitrogen-free sulphuric acid in a test tube, 120 millimetres in length and 20 millimetres in internal diameter, which is fitted with a glass stopper and is graduated at 5 and 10 millilitres, and which has been carefully cleaned and dried. Insert the stopper, and shake as vigorously as possible, in the longitudinal direction of the tube, for five seconds. Loosen the stopper, place the tube immediately in a boiling water-bath, supporting it so as to prevent contact of the tube with the bottom or side of the bath, and heat for ten minutes. At the end of the second, fourth, sixth, and eighth minutes, remove the tube from the bath, and shake as vigorously as possible in the longitudinal direction of the tube, for five seconds. At the end of ten minutes transfer the liquids to a small dry separator with ungreased tap, allow to stand for ten minutes, and run off the lower layer into a colourless rectangular glass cell of 10 millimetres internal measurements in the direction of observation. Place the cell in a colorimeter, designed for matching the colour of the solution against colour glasses, and compare the colour of the test liquid with the colour given by the combination of the colour glasses for the sulphuric acid test on liquid paraffin. (See Appendix hereto). The colour of the test liquid is not deeper than the combined colour of the prescribed glasses, neither with respect to the red component nor with respect to the yellow component.

Mix 4 millilitres with 2 millilitres of dehydrated alcohol and 2 drops of a clear saturated solution of lead monoxide in solution of sodium hydroxide, and heat at 70° for ten minutes with frequent shaking; the mixture remains colourless (limit of sulphur compounds).

Boil 3 millilitres with 10 millilitres of alcohol (90 per cent.); the alcohol is not acid to litmus (limit of acidity).

**DOSES**

**Metric:** 7.5 to 30 mills. **Imperial:** ¼ to 1 fluid ounce.

**APPENDIX XIV**

**COLOUR GLASSES FOR THE SULPHURIC ACID TEST ON LIQUID PARAFFIN**

The colour glasses are standardised to have the following properties on the system of colour measurement adopted at the National Physical Laboratory, Teddington.

**Red glass.**
Colour Quality: 0.377 X plus 0.33 Y plus 0.292 Z
Photometric Transmission: 66.6 per cent.

**Yellow glass:**
Colour Quality: 0.412 X plus 0.451 Y plus 0.137 Z
Photometric Transmission: 84.3 per cent.

**Combination of the Red glass and the Yellow glass:**
Colour Quality: 0.447 X plus 0.423 Y plus 0.130 Z
Photometric Transmission: 56.2 per cent.

In the foregoing specifications, X, Y and Z denote the reference stimuli of the system of colour specification adopted by the International Commission on Illumination, in 1931, and the measurements, both of colour quality and photometric transmission, are presumed to be made with source B, adopted by that Commission for colorimetric measurements.

## TECHNICAL WHITE OIL

## (Pool Lub. No. 30)

**Must be practically odorless, bloomless and tasteless**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 250 | ..... |
| Viscosity, SU @ 100° F., sec. | 70 | 90 |
| Color, Saybolt | Not darker than plus 22 | |
| Corrosion | ... | Neg. |

## WHITE OIL, LIGHT

## (Pool Lub. No. 31)

**Must conform to British Pharmacopoeia, Codex 1934, Specification for "Light Liquid Paraffin", except for viscosity, which is specified below:**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Viscosity, S.U. at 100° F., sec. | 80 | 90 |

### PARAFFINUM LIQUIDUM LEVE

**(Paraff. Liq. Lev.)**
**Light Liquid Paraffin**

Synonyms—Spray Paraffin: Paraffinum Liquidum pro Nebulis.

Light liquid paraffin is a mixture of liquid hydrocarbons obtained by distillation from petroleum. It occurs as a transparent colourless, oily liquid which, when cold, is almost devoid of odour. Light liquid paraffin has a lower specific gravity and a lower viscosity than Paraffinum Liquidum.

**Insoluble** in water and alcohol (90 per cent); soluble in boiling dehydrated alcohol, ether and chloroform; miscible with benzene, light petroleum, fixed and volatile oils.

**Standard.**—Light liquid paraffin has a specific gravity of from 0.835 to 0.850. It complies also with the limit tests for sulphur compounds and acidity in Paraffinum Liquidum. (See Pool Lub. No. 29).

## WHITE OIL, HEAVY

## (Pool Lub. No. 32)

**Must be odorless, bloomless and tasteless**

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Flash Point, PMCC, °F. | 250 | ..... |
| Viscosity, SU @ 100° F., sec. | 120 | 140 |
| Color, Saybolt | Not darker than plus 30 | |

## ORCHARD SPRAY OIL

## (Pool Lub. No. 33)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 29.0 | 33.0 |
| Viscosity, SU @ 100° F., sec. | 60 | 80 |
| Unsulfonated Residue, % by vol. | 94 | ..... |
| Distillation | | |
| Initial Boiling point °F. | 572 | 581 |
| % @ 637° F. | 40 | 49 |
| 95% Recovery, °F. | ... | 739 |

## ORCHARD SPRAY OIL

## (Pool Lub. No. 34)

| TEST | SPECIFICATIONS Min. | Max. |
|---|---|---|
| Gravity @ 60° F., °API | 29.0 | 33.0 |
| Viscosity, SU @ 100° F., sec. | 60 | 80 |
| Unsulfonated Residue, % by vol. | 94 | ..... |
| Distillation | | |
| Initial Boiling Point °F. | 572 | 581 |
| % @ 617° F. | 16 | 23 |
| % @ 653° F. | 35 | 53 |
| 95% Recovery, °F. | ... | 739 |

## Correction

The specifications for Pool Fuel Oil of the British Petroleum Mission, as published in Dec. 24th issue of *Refining Technology*, pg. R-410, prescribed an 0.5% of ash, by ASTM Method D 482-38T. This has been corrected to read 0.05.

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| **Murphy, George B.** | Refining Technologists Play Important Part in Oil Industry Defense Program | Nov. 12, | R-353 |
| **Murphy, George B.** | Many New Developments Shown in The California Refining Industry | Nov. 26, | R-369 |
| **Murphy, George B.** | Lead Cut Means Reducing Octane of Regular Gasoline 3-5 Points | Dec. 10, | R-385 |
| **Murphy, George B.** | Catalytic Isomerization Will Put Nation Far in Lead in Aviation Gasoline Supply | Dec. 24, | R-401 |
| **Parker, Charles K.** | Balance Was Delicate Between Reaction Temperature and the Fusion Point of Retort Metal in Early Toluene Plant (also by John B. Terry) | July 23, | R-234 |
| **Patten, Harrison E.** | New Test Apparatus Enables Navy to Set Service Standards for Grease (also by Robert C. Adams) | July 9, | R-218 |
| **Sibley, B. E.** | Oil Temperatures in Severe Road Tests Lower Than Those in Engine Stands (also by H. C. Baldwin) | Aug. 20, | R-267 |
| **Smoley, E. R.** | Polyform and Gas Reversion Processes for Higher Octane Gasoline (also by V. O. Bowles) | Nov. 12, | R-364 |
| **Terry, John B.** | Balance Was Delicate Between Reaction Temperature and the Fusion Point of Retort Metal in Early Toluene Plant (also by Charles K. Parker) | July 23, | R-234 |
| **Wakeman, Reginald L.** | Plastics and Chemicals from Petroleum Bases | July 23, | R-226 |


## NEW PATENTS

**Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.**

**December 16, 1941**

*Hydrocarbon conversion and polymerization*—Frederick E. Frey, Bartlesville, Okla., assignor to Phillips Petroleum Co. Filed Jan. 27, 1937. No. 2,266,019.

*Starting and controlling contacting operations*—James W. Harrison, Woodbury, N. J., and Thomas B. Prickett, Philadelphia, assignors to Houdry Process Corp. Filed Sept. 23, 1939. No. 2,266,033.

*Vacuum distillation method*—Charles V. Litton, Redwood City, Calif. Filed July 31, 1939. No. 2,266,053.

*Starting up and temperature control of contact operations*—Clarence H. Thayer, Wallingford, Pa., assignor to Houdry Process Corp. Filed Jan. 4, 1938. No. 2,266,095.

*Treatment of petroleum oils*—Thomas O. Edwards, Jr., and Oscar Larson, Associated, Calif., assignors to Tide Water Associated Oil Co. Filed May 9, 1938. No. 2,266,359.

*Dehydrogenation of hydrocarbons*—Charles M. Thacker, Toledo, Ohio, assignor to Pure Oil Co. Filed June 27, 1938. No. 2,266,520.

*Processes of dewaxing hydrocarbons*—Leo D. Jones, Philadelphia, Pa., assignor to Sharples Corp. Filed Dec. 2, 1938, and July 11, 1939. Nos. 2,266,553 and 2,266,554.

*Production of isobutane from normal butane, and production of branched-chain paraffin hydrocarbons*—Edmond L. d'Ouville and Bernard L. Evering, Chicago, Ill., assignors to Standard Oil Co. (Ind.) Filed Dec. 14, 1938. Nos. 2,266,011 and 2,266,012.

*Diesel fuel*—Richard S. George, State College, Pa., and George S. Crandall, Edwin M. Nygaard, and Darwin E. Badertscher, Woodbury, N. J., assignors to Socony-Vacuum Oil Co. Filed June 4, 1940. No. 2,266,021.

*Sulphonic acid compounds and their preparation*—Alexander N. Sachanen, Arlie A. O'Kelly, and Pharez G. Waldo, Woodbury, N. J., assignors to Socony-Vacuum Oil Co. Filed May 23, 1940. No. 2,266,084.

*Process for reacting hydrogen and oxides of carbon*—Donald L. Campbell, Short Hills, and Frank T. Barr, Summit, N. J., assignors to Standard Oil Development Co. Filed Dec. 17, 1940. No. 2,266,161.

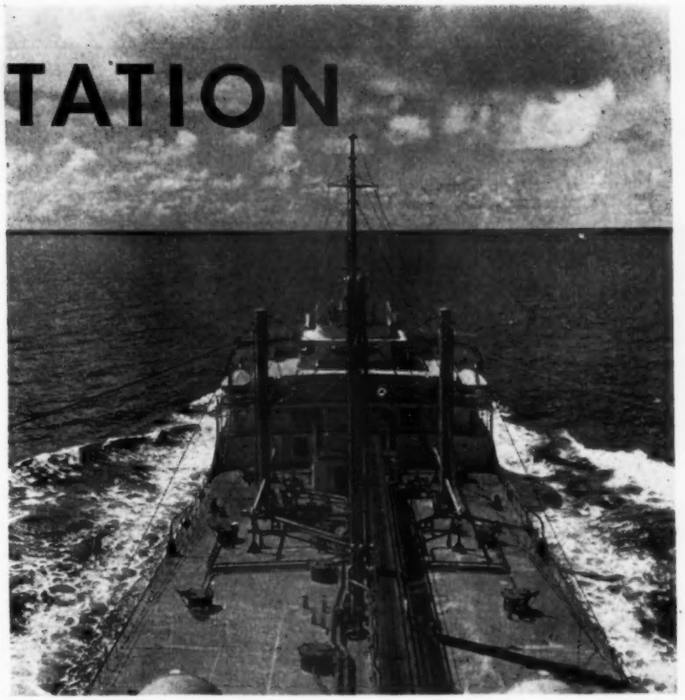
*Process of making thiourea*—William B. Lerch, Clyde H. Mathis, and Eugene J. Gatchell, Bartlesville, Okla., assignors to Phillips Petroleum Co. Filed June 20, 1938. No. 2,266,221.

*Lubricating composition and process of preparing* — Arthur Lazar and Paul M. Ruedrich, Berkeley, Calif., assignors to Tide Water Associated Oil Co. Filed Feb. 21, 1938. No. 2,266,325.

*Extreme pressure lubrication*—Robert K. Floyd, Detroit, Mich., assignor to Standard Oil Co. (Calif.) Filed Jan. 7, 1939. No. 2,266,379.

*Pretreatment of metal bearing surfaces*—George L. Neely and Victor M. Kostainsek, Berkeley, Calif., assignors to Standard Oil Co. (Calif.) Filed May 18, 1940. No. 2,266,380.

# OIL TRANSPORTATION



## Time Charter Rates Reduced; Effect on Tankers Not Clear

CLEVELAND, Jan. 5.—U. S. Maritime Commission today issued a broad scale of maximum time charter rates for U. S. and foreign-flag cargo and tanker vessels, effective Jan. 20.

On that same date, the commission stated, ". . . all ocean freight rates, with the exception of those specifically approved by the Commission within the past few months and those under jurisdiction of the Interstate Commerce Commission, should be adjusted to the level of rates as of September 1, 1940, to which may be added an approved surcharge to cover increases in operating expenses which have occurred since that date."

**Application Not Clear**

Application of the scale to tanker rates, especially to open market coastwise rates, was not clear. Several New York tanker men said they had attempted to get the Maritime Commission to clarify this point, but so far had been answered only in generalities.

Answering questions of NPN's Washington Bureau, a commission spokesman said: "It is believed" the 40c per bbl. maximum rate established Dec. 1 by the commission on gasoline from Port Arthur, Tex., to New York will stand.

"The new schedule, it is believed, will apply only to offshore business," the spokesman added.

**Questions Unanswered**

If the Dec. 1 maximum of 40c per bbl. on gasoline stands, tanker owners still face several questions: If we can charge 40c per bbl. for gasoline from Port Arthur to New York, are we expected to charge less than 40c from New Orleans to New York? If we charge 40c for gasoline from Port Arthur to New York, what rate will the commission consider "reasonable" for light heating oil on the same voyage?

Clarification of these points was promised by the commission on Nov. 28, date the Dec. 1 rate was announced. Said the commission: "Port and product differentials will be announced later." But nothing has been forthcoming.

Questioned by NPN, a Maritime Commission spokesman today said: "Forty-three port and product differentials will be announced later." This matter, he added, is still pending before the commission, action is expected promptly. "Ship owners must wait meantime."

**Charter Scale Told**

Maritime Commission's new scale of maximum charter rates are based on $3.25 per deadweight ton per month on 10 knot tankers of 10,000 DWT or more. This ranges up to $6.05 per DWT on vessels of 1000 to 1499 DWT. Providing for adjustments based on speed, the scale permits an additional 10c per DWT per month for each knot in excess of 10 knots, up to 14 knots. Thereafter, 5c per DWT for each half knot over 14 knots. For vessels of speeds less than 10 knots, correspondingly lower maximum rates are established.

New scale, the commission, says, will be incorporated into the Ship Warrants system and will be a condition for continued holding of warrants and issuance of new warrants.

Surcharge, which the commission will approve to compensate for increased costs of operation, including war risk insurance, wages, etc., will be permitted "when steamship lines establish to the satisfaction of the Commission the necessity and amount of surcharge required."

### Rail Shipments to East Up

WASHINGTON, Jan. 3.—Tank car shipment of petroleum and petroleum products into East Coast area for week ending Dec. 27 increased 159 cars or from 1742 to 1901 cars, as compared with previous week, Office of Petroleum Coordinator announced last week.

Daily shipments into area were 271 cars, or 60,975 bbls., compared with 249 cars, or 56,025 bbls. previous week.

Company shipments were:

Atlantic, 114 cars; Gulf, 141; Pan-American, 52; Pure, 59; Shell, 207; Sinclair, 33; Kentucky Standard, 90; New Jersey Standard 906; Sun, 11; Texaco, 118; and Tide Water, 170.

## Oil Traffic Group Protests Rail Hike

NPN News Bureau

WASHINGTON, Jan. 5.—Western Pennsylvania Refiners Traffic Assn. filed a protest with Interstate Commerce Commission last week opposing in part the proposed 10% general increase in all Class I railroad freight and passenger rates.

Harry S. Elkins, traffic attorney for W.P.R.T.A., filed a brief with ICC in which it was requested that refined lubricating oil, gasoline, kerosine and fuel oil shipped from points in western New York, Pennsylvania and West Virginia be exempt from proposed 10% increase since refiners in District 1 were not included in rail rate reduction extended last Sept. 15 to refiners in other districts shipping into District 1.

L. R. Cowles, Chicago, Traffic Manager for Indiana Standard, also filed petition with ICC protesting rail rate hike insofar as it would disrupt competitive relationship between petroleum coke and coke produced from coal.

Also filed last week with ICC was a petition by American Trucking Assn., Inc., to intervene at St. Louis hearing which opened Jan. 5 in order to present testimony showing need for an increase in truck rates.

### Socony Gets New Tanker

NPN News Bureau

NEW YORK, Jan. 2.—Socony-Vacuum's newest tanker, the "Catawba", 130,000-bbl. capacity, was launched at the Sparrows Point yards of Bethlehem Steel Co. on Dec. 23. Only the sponsor, Mrs. Wilbur F. Burt, and her husband, a Socony-Vacuum director, yard officials and workmen were present at the ceremonies. The "Catawba" is a sister ship to the "Corsicana", "Caddo", and "Calusa", all previously launched.

### Want Federal Truck Survey Completed by January 31

NPN News Bureau

WASHINGTON, Jan. 5.—All returns in national truck and bus inventory being conducted by Federal Works Agency must be in by Jan. 31, FWA announces.

Inventory is being conducted for War Department in order to set up central and regional records of all trucks, trailers and buses for use in organizing highway transportation during the emergency.

About 40 states have inventories two-thirds complete, while 4 states are less than one-half complete.

### States Get $100 Million For Federal-Aid Roads

NPN News Bureau

WASHINGTON, Jan. 3.—Total of $100,000,000 has been granted the states for improvement of Federal-aid highway system during fiscal year beginning July 1, Federal Works Agency announced this week. Additional $17,50,000 for secondary roads and $20,000,000 for grade crossing elimination was included. All work will be done through state highway departments; however, projects will be limited to those having definite defense significance.

# Sales of New Cars Halted, Pending Rationing System

(*Continued from page 7*)

governing such repossessions. It is also probable that additional amendments will be issued to cover particular hardship situations which may develop.

**Henderson to Ration**

Rationing of cars and trucks was turned over to Price Administrator Leon Henderson—also in charge of tire rationing—who explained the situation at a press conference on Jan. 2.

Pointing out that on Dec. 10 car production was cut 50,000 for rest of December and 100,000 for January, Mr. Henderson said officials did not know at that time whether production could continue after January, but the Civilian Supply Division had hardly contemplated a complete cessation of production.

"We face a situation now where we can't see any passenger car production for the duration," he declared.

The problem now is to get passenger car construction out of the way in order to convert factories to war production, including military vehicles and armaments.

Car manufacturers, he added, have inventories amounting to about $213,000,000, but this inventory is not well balanced among various companies. Mr. Henderson said the exact number of cars that will be produced is not fixed, but that it is around 200,000. To produce these cars, manufacturers would use up about $100,000,000 of their inventory. The date for termination of production is not definite, but Jan. 31 is likely.

**Rubber Is Problem**

Mr. Henderson said there were 2 main questions with regard to car production:

1. Will any substantial amount of material be needed to wind up production? The answer was that rubber is the only significant material.

2. Will manufacture of any cars in January or February interfere with conversion. The answer: "No". The expedited military vehicle program can not get into production before March or April.

While car rationing will parallel tires, Mr. Henderson said it would be "looked at more intently" to see what is likely to be an emergncy condition a few months hence.

With only 450,000 cars in the hands of dealers, there would be no possibility of meeting demands of more than the first 2 or 3 classes of users listed on the tire eligible list, Mr. Henderson said, indicating that cars would be rationed to an even more limited group than tires were.

As to the tires on the new cars, he felt the persons who are permitted to buy the cars would have obtained the tires anyway because of their eligibility under tire rationing.

**A. M. A. Names War Group**

Mr. Henderson said some thought had been given to operating only 1 small plant to manufacture cars for a limited group of users—such as police departments—but that no decision had been reached.

Last week in Detroit, the Automobile Manufacturers Assn. named an Automotive Council for War Production to speed every possible item of war production. Headed by Alvan Macauley, (Packard Motor) A.M.A. president, the Council pledged:

"The Nation will not lack for 1 gun, 1 tank, 1 engine, that the capacity and ingenuity of this industry's producers can add to the forces of our nation and its friends on all the fighting fronts."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# OPA Sets Quotas On Tires and Tubes

OPA set the national quota for January at 114,191 new tires and 95,580 tubes for passenger cars, motorcycles and light trucks, and at 242,783 tires and 202,966 tubes for other trucks and buses, on the basis of data from the tire industry and government sources.

OPA Chief Henderson said the low quota for January reflected the relatively little use of tires in January, expressing the hope that quotas for later months would reflect the greater use of vehicles.

Estimates were first based on number of tires required during one year for vehicles in the eligible classifications (List A). This was broken down as between new and retreaded tires.

The total of new and retreaded tires was divided by 12 to give average monthly requirements. From this figure was deducted the number of renewed tires which it is believed can be provided in January to give the number of new tires required. This figure was then adjusted by a seasonal factor based on the industry's experience as to the percentage of total annual sale which normally comes in January. The resulting figure was the national quota of tires which could be sold in January.

From this was subtracted 2% of the total to form the national reserve stock. The balance remaining was distributed among the states and possessions on the basis of industry data as to sales in each of these areas in January for recent years. These figures became the total which could be distributed in each state or territory.

Eight percent of these state totals were then deducted to form the state reserves. This balance was the total for which purchase certificates can be issued by local rationing boards in each state or territory.

This total was then broken down as between counties in each state according to the ratio of registrations in each county to total state registrations.

The results are county quotas which reflect not only registrations of vehicles (divided between passenger cars, motorcycles and light trucks on the one hand and trucks and busses on the other) but also geographic differences reflecting various climatic conditions which prevail through the country during January.

**Army Trains Recappers**

Other tire developments last week:

War Department announced a school for training enlisted men in recapping, retreading and repairing tires will open early this month at an unnamed tire and rubber company plant at Akron, Ohio, as part of the Army's plan to conserve 50% of the rubber used on its trucks and automobiles.

Priorities Director Donald M. Nelson issued an order forbidding spare tires on new light trucks.

# OPA Answers Questions on Tire Rationing Regulations

NPN News Bureau

Following are a series of questions and answers on tire rationing, compiled by Office of Price Administration and issued by OPA in a formal press release:

**Q.** Are seconds of new tires or tubes "new" tires or tubes?
**A.** Yes.

**Q.** Are bicycle tires within the scope of the Rationing Regulations?
**A.** No.

**Q.** Can an interstate common carrier which has delivered to and deposited with various tire service stations along its route a supply of its own tires bearing its own brand to be used to service its own trucks under a service contract with the local agency obtain such tires from the local station?
**A.** This depends upon whether the release of tires amounts to a delivery or transfer within the contemplation of the Order. Opinion reserved for written submission of facts.

**Q.** Can tires in possession of seller on which full payment has been made be delivered to the purchaser?
**A.** No.

**Q.** Can tires on which a down payment has been made but which are still in the possession of the seller be delivered to the purchaser?
**A.** No.

**Q.** Can tires now owned and in possession of a fleet operator be transferred from one of his fleet garages to another? From truck to truck?
**A.** Yes.

**Q.** Can tire dealers exchange white wall tires owned by them for black wall tires owned by automobile dealers?
**A.** No.

**Q.** Have the local boards any discretion in extending the list of eligible classes?
**A.** No.

**Q.** To whom must one apply for modification in the list?
**A.** Leon Henderson, Office of Price Administration, Washington, D. C.

**Q.** Is a hearse an eligible vehicle?
**A.** No. In emergencies ambulances, which are on the eligible list, may be used as hearses.

**Q.** Is a truck used to deliver coal to both the manufacturers and private consumers entitled to tires?
**A.** Yes.

**Q.** Does the exception in section 404 (e) (9) relating to deliveries to ultimate consumer prohibit the delivery of coal to an ultimate consumer?
**A.** No.

**Q.** Are trucks used to repair telegraph lines eligible vehicles?
**A.** Yes.

**Q.** Are passenger cars used to repair telegraph lines eligible vehicles?
**A.** No.

**Q.** Are cars used to render commercial service to telegraph offices eligible vehicles?
**A.** No.

**Q.** Are cars used to deliver telegrams in rural areas eligible vehicles?
**A.** No.

**Q.** Are passenger cars used by traveling purchasers of scrap iron entitled to tires?
**A.** No.

**Q.** Are wholesale grocers' trucks, used to make deliveries to retailers, eligible vehicles?
**A.** Yes.

**Q.** Are passenger cars used by wholesale grocers to make deliveries or to solicit sales eligible vehicles?
**A.** No.

**Q.** Are wholesale grocers' trucks used for sales and for solicitation of sales and for deliveries eligible vehicles?
**A.** Only when the deliveries and solicitations coincide. Trucks cannot be used as salemen's vehicles.

**Q.** Are trucks used by newspapers to make deliveries of newspapers in wholesale lots to news dealers eligible vehicles?
**A.** Yes.

**Q.** Are trucks used for the delivery of single papers to homes in rural areas eligible vehicles?
**A.** No.

**Q.** Are trucks used for retail deliveries of heavy goods, e. g. furniture, eligible vehicles?
**A.** No.

**Q.** Are airplane tires subject to the provisions of the Rationing Order?
**A.** No.

**Q.** Does the OPA set quotas limiting the number of tires which each dealer may sell?
**A.** No. No quotas apply to sales by dealers. Local boards cannot issue tire certificates for new tires or tubes in excess of the quotas assigned to them. Dealers may sell as many tires or tubes as are requested by purchasers who hold tire certificates.

**Q.** When will a company using trucks to transport coal be able to get tires?
**A.** Any time after January 5 it may apply to the Local Board in its area and the Board will grant a certificate if the vehicle is an eligible vehicle and the Board has tires available for it within its quota.

**Q.** Can Local Tire Rationing Boards charge a fee for the issuance of a tire certificate?
**A.** No. Exaction of a fee under color of authority in violation of regulations would be illegal and a federal offense.

**Q.** A tire dealer has sold a tire and has guaranteed to replace it with a new tire if the original tire proved defective. Can the tire owner exchange a tire which proves defective for a new tire?
**A.** No. New tires can be delivered only to persons who hold certificates. If the person is entitled to an adjustment on the guarantee, he should seek a monetary settlement from the person from whom he purchased the tire.

**Q.** Does the list of eligible vehicles set forth the order of preference in which the classes of eligible vehicles are to be granted tire certificates?
**A.** No. The eligible vehicle list is not a priority list and does not set forth the order of preference in which applications are to be granted.

**Q.** Is a laboratory technician who uses his own car to travel to homes of invalids for purposes of making blood tests entitled to tires?
**A.** No. If the technician were a licensed physician using his car principally for professional services he would be entitled to tires under the local quota.

**Q.** How may new tires needed for a police department be obtained?
**A.** Tires for police cars are obtainable after January 5, 1942, from the Local Boards under the local quota.

**Q.** May new innertubes be obtained for a school bus prior to the functioning of the rationing system under Local Boards to commence January 5, 1942?
**A.** No.

**Q.** Are trucks used by a retail grocer to obtain supplies from wholesalers entitled to tires?
**A.** Yes, provided they are not used also for retail deliveries or other non-qualified uses.

**Q.** Can an employee of a mining or manufacturing company who uses his car to travel to and from his plant or between plants of the company secure a certificate for tires?
**A.** No.

**Q.** Can a person using a passenger car for a supervisory work on a defense project get a certificate from the Local Tire Rationing Board?
**A.** No. If the car has been used for the past six months to the extent of 75% or more on Army or Navy work, there is a possibility that he may be able to get a priority rating which will entitle him to purchase tires without a certificate. To obtain such a preference rating, he should apply to the officer with whom he dealt in making his contracts, for instructions on the method of getting preference ratings.

**Q.** Is a truck used by a cannery to transport canned salmon to wholesale distributors an eligible vehicle?
**A.** Yes.

**Q.** Are trucks used to transport laundry from central dry cleaning establishments or laundry establishments to retail stores eligible vehicles?
**A.** Yes.

**Q.** Where qualified trucks are used over extensive areas, to which board should owner apply for tires?
**A.** To the Local Board in the state and county where the trucks are registered. In case of necessity the regulations provide for obtaining tires from a board other than that having jurisdiction to be charged against the quota of the home board.

# Plan to Triple Production Of Synthetic Rubber by '43

Although the U. S. has lost the source of 98% of its crude rubber as a result of the war, America has two aces up its sleeve—synthetic rubber and reclaimed rubber.

Some quarters report that the present rubber stockpile is large enough to last the armed forces 2 years, by drastically limiting civilian consumption, and that synthetic rubber will be produced in sufficient quantities by that time to meet further military needs.

Others say the present stockpile could be stretched to a limit of 5 years. That would be 1947. by that time, it is probable that production from native rubber trees in Latin-America and from the guayule bush in Mexico and southwestern U. S. will be of substantial proportions.

Irony is etched deeply in the present rubber difficulty. The Hevea—native rubber tree—is a native of Amazonia, but British and Dutch planters took the tree to the Orient and displaced the South American rubber by scientific planting. Now we are working desperately to revive Latin American production.

**Reclaimed Rubber**

Reclaimed rubber, our greatest emergency source, has been described as our "white hope." Industry is now reclaiming at rate of 270,000 tons a year. Experts are not in agreement on how much this figure could be increased. Some say about 500,000 tons of scrap could be collected annually for a time, producing nearly an equal tonnage in reclaimed rubber, but additional reclaiming plants would have to be built. Greatest obstacle is the fact that rubber cannot be reclaimed indefinitely.

Promising an immediate result is synthetic rubber, of which there are 29 kinds. More than a dozen of these are in use in this country now.

Financed by the Defense Plant Corp., a subsidiary of the Reconstruction Finance Corp., four plants are now being built to produce 40,000 tons of synthetic rubber annually. Already, plans to triple this capacity—bringing it to 120,000 tons a year—have been approved by SPAB, subject to detailed analysis by Priorities Division to see whether necessary materials are available.

OPM says it may be possible to achieve the 120,000-ton-a-year figure by the end of this year, but to do so, we must materially increase output of butadiene, a liquefied petroleum gas, and benzol, basic ingredients of the general purpose type of synthetic rubber. Expansion will be pushed just as fast as 100-octane plants.

In addition, production of neoprene (a synthetic rubber made from coal) and the output of other special types of synthetic rubber, is expected to approximate 27,000 tons this year.

On many points of comparison, synthetic rubber is superior to the natural product, equals it on other points, and is inferior only 1 or 2 points. Synthetic rubber, for instance, is superior in its resistance to heat and oil. Synthetic rubber is used by the oil industry for gasoline pump hose and other purposes. An important war use of syntheitc rubber is in self-sealing gasoline tanks for planes.

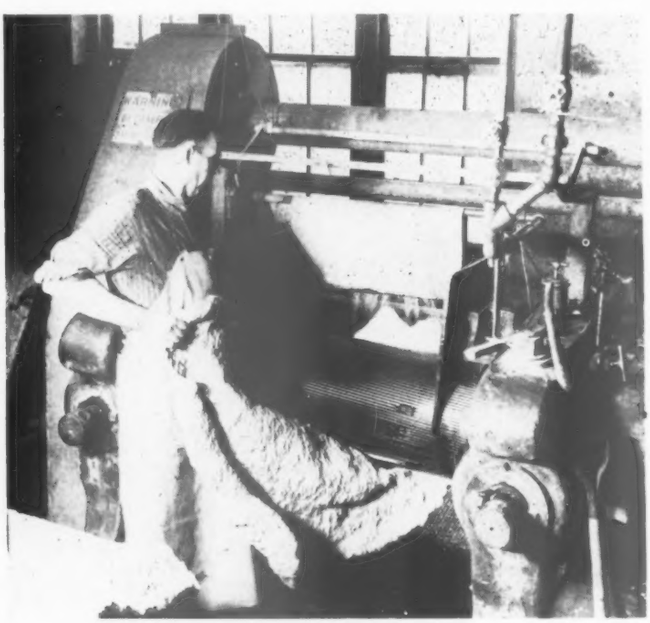
**South American Sources Cited**

Before 1910, the world's supply of crude rubber was gathered by natives in the Amazon jungles. At its peak, the jungle trade brought in from 60,000 to 70,000 tons a year, and then gradually declined after British and Dutch planters took the tree to the Orient.

When Latin-American planters tried to adopt the same methods, a devastating fungus leaf disease spread through the plantations. The Department of Agriculture has sent several parties to Latin American to explore possibilities of raising rubber there scientifically. As a result, more than 1,000,000 seedling trees are growing in propagating nurseries in 12 countries.

The guayule plant, another source of rubber raised in Mexico and southwestern U. S., is in for extensive cultivation. Production this year may reach only 7,000 tons, but large-scale production is anticipated by 1947. Rubber from guayule reached its peak in 1912 with output of 10,000 long tons.

*Blocks of raw synthetic rubber are cut into small pieces and sheeted on a wash mill*



*Raw synthetic rubber as it is taken from the wash mill after heat has removed moisture and pressure has squeezed the lumpy material into thin sheets. Synthetic rubber illustrated is produced from petroleum at plant owned jointly by B. F. Goodrich Co. and Phillips Petroleum Co.*

# Canada Plans Halt To New Car Output Beginning April 1

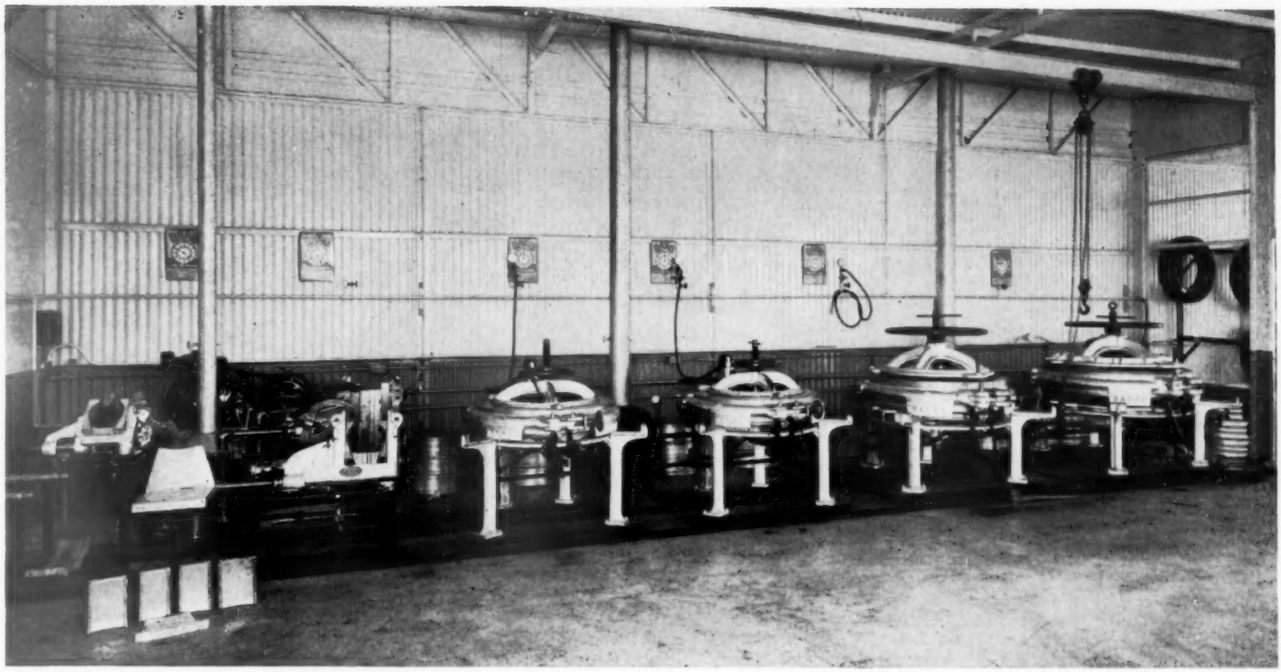
*Special to NPN*

OTTAWA, Jan. 3.—Production of automobiles and light trucks is being drastically curtailed in Canada with a view to virtual discontinuance of manufacture next April 1, the day gasoline rationing by the coupon system becomes effective, it was announced here by R. C. Berkinshaw, chairman of the Wartime Industries Control Board. Details are now being worked out for a plan of curtailment whereby essential transportation services may be maintained. Mr. Berkinshaw intimated that such people as doctors who must be able to travel quickly in emergencies would probably be allowed to buy new cars.

**Pleasure Cars 'Out'**

"But one thing is certain," he said. "Buying cars for pleasure driving is out." Presumably, manufacture of heavy trucks will be allowed to continue on a carefully regulated basis.

Under orders issued some months ago by J. H. Berry, motor vehicles controller, production of private automobiles during 1942 was to have been curtailed to 44% of 1940 production. On this basis, 42,000 cars would have been built in Canada in 1942. Last month Mr. Berry issued orders that in 1942 output of trucks under 10,000 lbs. gross rating is to be limited to one-half the 1941 production. Both of these orders are now superseded by the more drastic curtailment announced by Mr. Berkinshaw.



All sizes of tires, except heaviest tractor types, can be recapped with the complete installation of molds shown in this shop

# Renewal Holds Key to Tire Situation

**Many thrift-conscious motorists were converted to tire recapping long ago. Now, tire rationing makes recapping a necessity for virtually every motorist as his present tires wear out. Motorists will look to the service station for help in getting longest possible wear from their tires and for tire renewal when needed.**

**Recapping had proved a profit-maker for many oil marketers during peacetime. Now, as war necessity, there are even greater opportunities for marketers in this essential service to their customers.**

**NPN was well ahead of this development, telling its readers months ago of the possibilities in recapping. This present article brings NPN readers right up to the minute on this vitally-important subject.**

THE blackout on new tire sales has turned the spotlight on rubber as an additional wartime problem for oil company management. Many Independent oil jobbers and some major oil companies were already in the tire recapping business. They are finding it a boon to their wartime operations. Others are making arrangements to have their work done by established shops, or are placing orders for recapping equipment.

According to Washington officials, there should be allocation of enough rubber for defense retread needs, as well as additional recapping machinery.

Among the points utmost in the minds of oil jobbers at this time in the tire situation are:

Establishment of tire recapping shops.

Connection with an established shop.

Dealer and consumer education for rubber conservation.

### Establishing Recapping Shops

With a total of 4500 tire recapping shops in the entire country, about 800 of which are good ones with modern and sufficient equipment to do any volume of work, and most of the balance 1 mould sideline affairs, several thousand additional shops will be necessary to handle the business. Tire recapping equipment manufacturers point out the steady growth of this business even before war entered the picture. With the entire nation "recapping conscious", these manufacturers point out that even after the war, and regardless of the development of synthetic rubber or guayule, recapping will continue to be an important industry. For, these manufacturers state, when the public finds that retreads cost only half as much as new tires and give 75 to 80% as much wear, they are not likely to go back to the old method of replacing worn tires with brand new ones.

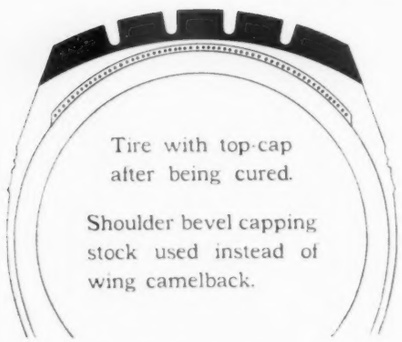
The big rubber companies themselves in addition to establishing their own shops are encouraging their dealers to get in the business themselves.

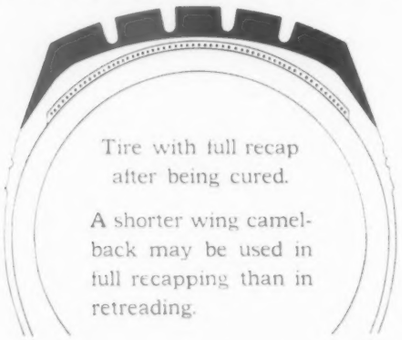
The tire, battery and accessory corporation for a group of the Standard

**NPN Series of Articles On Tire Recapping**

Readers wishing further background on tire recapping from the oil marketer's standpoint are urged to review NPN's earlier articles on this subject in the issues of July 16, p. 21; July 23, p. 27; July 30, p. 19; Aug. 13, p. 19; Dec. 24, p. 5; Dec. 31, p. 1.

## Retreading, Recapping, Regrooving Terms Explained



The new tire blackout and the tire renewal business is causing station operators and dealers to answer many questions from the motoring public not raised before the war. Perhaps this "lexicon" might be helpful to jobbers in passing on information to these men.

**TIRE RECAPPING**—The surface is roughened, rubber cement applied, a strip of camelback applied, molded and vulcanized.

**TIRE RETREADING**—All of the old tread, including the breaker, is removed and replaced with new material. For a good retread job, the tire must have some rubber on it.

**REGROOVING**—This merely cuts new treads in a tire worn smooth. No new rubber is added, nor is the life of the tire prolonged.

**CAMELBACK**—An uncured rubber compound of the same ingredients that go into new tires.

**Oil companies is establishing tire renewal shops in strategic locations for handling that company's tire renewal business and taking care of their station and dealer accounts. Shops have already been set up in Chicago, Cleveland, Birmingham and other cities.**

NPN made a study of the tire renewal field from the oil marketing angle and published a series of articles on the subject July 16, 23 and 30, 1941. The basic information given in that series of articles is unchanged. War, of course, has now changed the picture, so far as getting the material is concerned. Prices have advanced to some extent, but the potential business and the war with Japan have made the investment in a tire renewal shop by oil jobbers less speculative as to future possibilities.

Today the initial cost of getting into the business runs between $3000 and $5000, with from $12,000 to $15,000 necessary in order to install shops comparable with those being set up by the tire companies and large operators.

A minimum sized shop, which could produce one tire every 70 minutes can still be set up in a space approximately 12 x 18 ft. at a cost of less than $2000. This would take care of the popular sizes of tires—5.25 x 17, 5.50 x 17, 6.00 x 17, 6.00 x 25, 6.50 x 16, 6.25 x 16. Installation would run from $75 to $100. In addition to an air compressor the following equipment would be necessary:

Moulds and matrixes
Boiler
Buffer
Tire spreader
Tread roller
Curing rims
Curing tubes
Miscellaneous material, including camelback, rubber cement, small tools.

In a 10-hour day this shop could turn out 8 tires and could be operated by an intelligent and alert man, who would first have to learn at the factory—either rubber company or equip-

The rack of used tires shown below have become doubly valuable due to the ban on sale of new tires. Old tires can be renewed, giving again from 75% to 80% of original service

# CHANGE TO CHAMPION

## FOR GREATEST CONSUMER ACCEPTANCE

**THE DEPENDABLE SPARK PLUG**

The year 1941 was the largest in the history of the Champion Spark Plug Company. That means that all Champion dealers have likewise enjoyed an increase in their spark plug business and, naturally, bigger profits.

The Champion Spark Plug Company always strives to make your job of selling Champion spark plugs as easy as possible through advertising, exclusive sales features, performance records and merchandising aids. Champion has for years enjoyed a greater preference than all other spark plugs and recent surveys indicate that there has been a very definite additional swing to Champions.

You can depend on Champion to do everything in its power and within the limits of defense material allotments to meet this increased demand for Champion spark plugs.

**IT PAYS YOU WELL TO STOCK AND SELL—CHAMPIONS!**

ment manufacturer—how to operate the equipment.

### Connection with Established Shop

Oil jobbers who for various reasons are unable to set up a tire renewal shop of their own must work out an arrangement with an established tire renewal shop. Where a connection is made with the jobber's tire supplying company for doing this work, there will be little, if any, concern regarding the quality of the work. But in forming a connection with an independent shop, the following standards, as set forth by an engineer of a major tire company, as a guide in rating a well-equipped shop, could be used by jobbers in judging whether or not their renewal connection is up to standard:

1. Good buffing equipment for removing the tread uniformly so as not to throw the tire out of balance.

2. Facilities for handling the dust from the buffing operation.

3. A clean, dry room with proper temperature maintained for drying the cemented casings.

4. Modern curing molds, which are adjustable, so as to fit all makes and sizes of tires properly. This is important, since a mold which is too large will either produce a spongy or light tread, or subject the tire to unnecessary stretch. A mold which is too small may buckle the tire.

5. The molds should provide proper tread widths and curvatures consistent with good tire design.

6. There should be adequate boiler capacity and proper regulators to maintain the cure at the proper temperature.

7. There should be an adequate air supply with proper pressure regulators.

8. The shop should also be equipped to do all kinds of tire repair work.

9. The first class shop will use only the highest quality materials.

### Renewal Standards Set

Standards for tire renewal, as set up by the National Institute Retread Standards, which must be met in order to receive the Institute's seal of approval in the actual renewal process are:

1. Tire body shall be sound in fabric and beads.

2. Tire body shall be thoroughly dried.

3. There shall be no separation between plies.

4. Tread portion shall be buffed to clean rubber.

5. Cement shall be approved brand and grade.

6. Cement shall be thoroughly dry and free of dust.

7. Tread rubber shall be properly switched to body.

8. Tread rubber shall be of approved brand and grade.

9. Cure shall be for full time recommended for rubber.

10. Guaranty of full satisfaction shall be made.

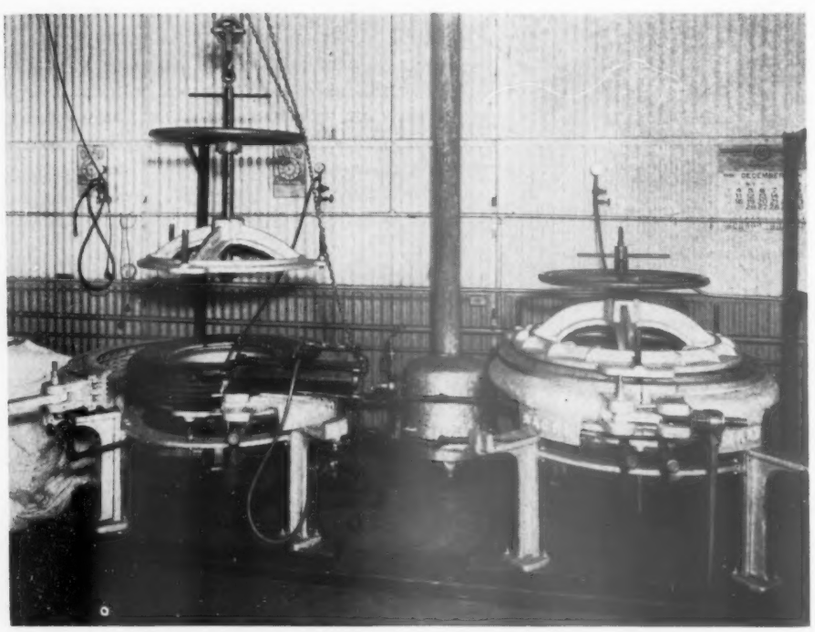
### Prices for Renewing Tires

In working out an arrangement for tire renewal prices, both to the consumer and dealers, as well as with a tire recapping shop, the prices will vary according to location and price conditions. The following schedule was in effect last August by an Independent oil jobber running his own tire renewal shop. It should be helpful to a jobber in working out his own schedule of prices. Even though the prices may be different in different localities, the percentages should be about the same as this schedule.

### Tire Renewal Price Schedule for Consumers, Dealers and Leased Stations

| Size | Price consumer pays Casing furnished by Co. | Price consumer pays Casing furnished by customer | *Price dealer pays Casing furnished by Co. | *Price dealer pays Casing furnished by customer | *Price leased station pays Casing furnished by Co. | *Price leased station pays Casing furnished by customer | *Price at which Co. owned Stations are billed when casing is furnished by customer |
|---|---|---|---|---|---|---|---|
| 5.25 x 17 | $5.95 | $4 95 | $4.65 | $3.65 | $4.30 | $3.30 | $3.00 |
| 5.50 x 17 | 6.45 | 5.45 | 5.00 | 4.00 | 4.65 | 3.65 | 3.30 |
| 6.00 x 16 | 7.00 | 6.00 | 5.40 | 4.40 | 5.00 | 4.00 | 3.60 |
| 6.25 x 16 | 7.45 | 6.45 | 5.75 | 4.75 | 5.30 | 4.30 | 3.90 |
| 6.50 x 16 | 7.95 | 6.95 | 6.15 | 5.15 | 5.65 | 4.65 | 4.15 |
| 7.00 x 15 | 8.45 | 7.45 | 6.50 | 5.50 | 6.00 | 5.00 | 4.50 |
| 7.00 x 16 | 8.85 | 7.85 | 6.80 | 5.80 | 6.25 | 5.25 | 4.75 |
| 6.50 x 20 | 14.90 | 10.90 | 9.00 | 8.00 | 11.30 | 7.30 | 6.50 |
| 7.00 x 18 | .... | 13.00 | 11.00 | 10.00 | .... | 9.70 | 7.80 |
| 7.00 x 20 | 19.00 | 15.00 | 11.45 | 10.45 | 14.00 | 10.00 | 9.00 |
| 7.50 x 20 | 21.00 | 16.00 | 12.75 | 11.75 | 15.70 | 10.70 | 9.60 |
| 32 x 6 TT | 17.00 | 13.00 | 10.60 | 9.60 | 12.70 | 8.70 | 7.80 |
| 32 x 6 HD | 20.00 | 15.00 | 12.00 | 11.00 | 15.00 | 10.00 | 9.00 |
| 34 x 7 | 26.00 | 21.00 | 16.40 | 15.40 | 19.00 | 14.00 | 12.60 |

*Note: 10% dicerence between dealer and leased stations permits lessees to handle business from other dealers. Price at which Co. owned stations are billed is for accounting purposes where a separate P. & L. is kept on each station. It is also the price the jobber who prepared the table charges other jobbers for doing their work.



Molds used for recapping truck tires

### Educating Dealer and Consumer

Because not many people really took the tire situation very seriously, so far as an actual shortage was concerned, oil jobbers are finding that in spite of all the warnings, a lot of the public, and even many dealers, still require educational programs to insure that tires receive the best possible care. This would include:

1. Checking tire pressures regularly.

2. Careful tire inspection when car is on lift.

3. Systematic shifting of tires at recommended mileage intervals.

4. Wheel balancing and seeing that wheels are in alignment.

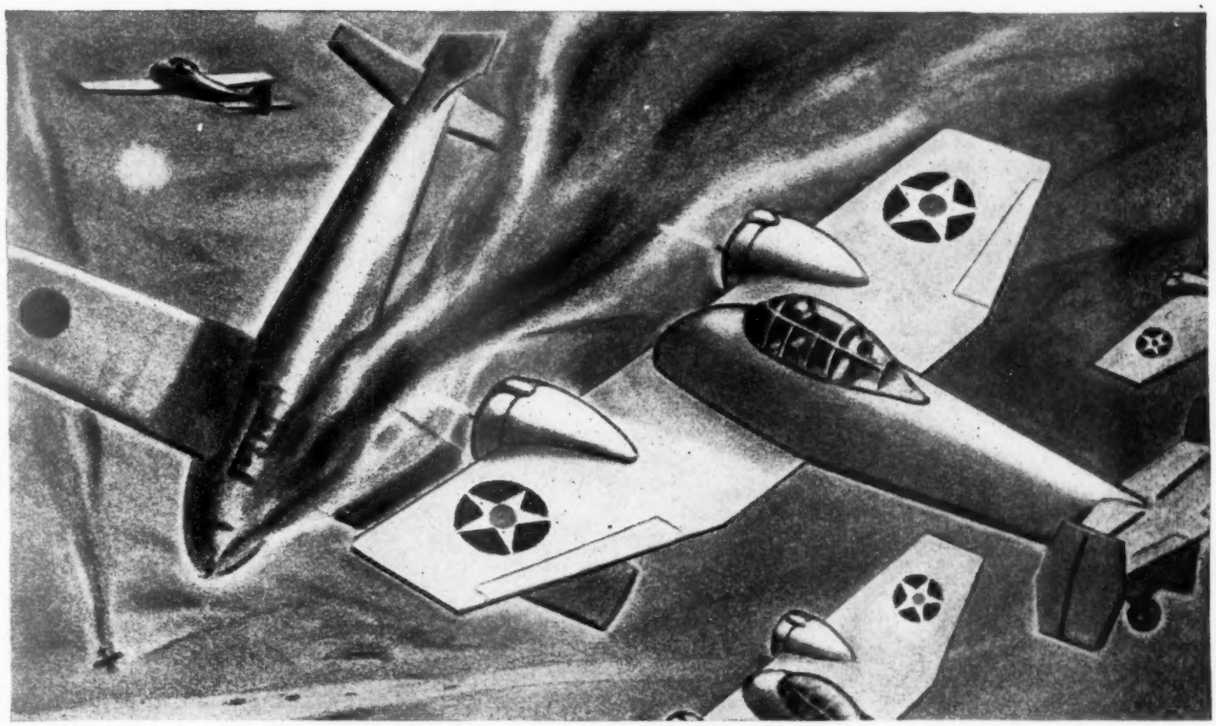
5. Advice as to when to have a tire retreaded.

### Check Tire Pressures

Many of the 1942 new car manuals recommend to owners that tire pressures be checked on every visit to a service station. Practically every station is provided with pressure tables, or they can be obtained from the rubber companies. It is the oil company's responsibility to see that tire pressure

# The Best Defense Against *Bombers*

*Here is America's first line of defense in the air—new fighter planes that are powered with two 1500 HP engines, carry four .50 caliber machine guns and two 37 mm cannon, and fly 450 mph.*



# The Best Defense Against *Waste*

You may not make planes or any part of a plane, but you can help "keep them flying" by keeping your product safe in transit—by protecting every drop until it is found "all present" in America's roll call of defense.

If your product is shipped in drums, in drums that must face hazards every mile and every minute, remember the first line of defense—the sure defense—against tampering, leakage and waste: Tri-Sure Closures. Remember that *Tri-Sure Closures* give *triple protection* to every drop in every drum—with a seal that cannot be removed unless it is deliberately destroyed; a plug that is always held in place; a flange that assures complete drainage.

Make every shipment safe—protect a product that helps protect America—with the finest weapon against waste. Write for information about Tri-Sure Closures.

**Tri-Sure**
Reg. U. S. Pat. Off.
**CLOSURES**

AMERICAN FLANGE & MANUFACTURING CO. INC., 30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

# The Coming Test of T

"Meters are an essential item. We have built our entire operation around our Red Seal bulk plant meters . . . would not operate a plant without them. Having had such splendid results with meters at the plant, we have been led to carry the metering idea to our tank trucks—which are now completely equipped with meters (Red Seal Print-O-Meter) for fuel oil deliveries. Eight years of satisfactory and profitable meter experience without service attention, deserves mention."

Valley View Oil Company
Waukesha, Wisc.

"The effect of metering on distribution begins at the loading-rack."

NEPTUNE RED SEAL METER CO.

NEPTUNE

# Tank Truck Efficiency

## ...how will you meet it?

**Tank truck efficiency already is being put to a test . . . that promises to become more and more severe for jobbers and retailers alike!**

● YOUR DELIVERY tank trucks will have to work harder. At the same time, rising costs of truck replacements, maintenance, wages, and other items chargeable to delivery expense, may further narrow your profit margin.

Highest efficiency of delivery facilities is called for: Trucks of right capacity for your market . . . properly equipped trucks . . . and a regard for the advantages of metering.

### *Time, Trouble and Gallonage Saved*

The effect of metering on deliveries actually begins at the loading-rack. Metered loading-racks promote faster handling of yard traffic and speedier fills, with a corresponding time-saving for truck and driver. Over-filling and spillage are eliminated. Calibration of truck tank compartments is checked and rechecked by metering. Accuracy of fills is insured, together with an exact and simple accounting of all gallonage loaded daily.

### *Tank Trucks Metered for Efficiency*

Now here is a quick survey of increased efficiencies in deliveries, gained by metering tank trucks:

1. *Increase in output, due to efficient routings permitted by metering less-than-compartment dumps and elimination of skip dumping and bucketing.*

2. *Metering permits use of the "degree day" system of fuel-oil deliveries.*

Decrease in average running time per delivery, due to the flexibility of metered less-than-compartment deliveries.

3. *Decrease in delivery cost per gallon per mile, due to efficient routing and the decrease in "lost" mileage, also to flexibility and speed of metered delivery.*

With the RED SEAL Auto-Stop (which automatically shuts off meter and flow when a predetermined gallonage is discharged), the driver at fill pipe of customer's fuel-oil tank never needs a helper.

Gasoline delivery time at stations likewise is saved—particularly with ticket-printer metering, which eliminates all waiting for the attention of busy station operator or attendant. Under certain conditions, ticket-printer metering also permits night deliveries to closed stations.

4. *Three or four metered trucks can do the work of five unmetered trucks.*

Decrease in truck investment cost, maintenance, insurance, wages, etc., due to smaller size of delivery fleet required. Greater productive mileage per truck before service years reduce the truck value to "obsolescent" rating.

5. *Metering gives a positive check on deliveries . . . full assurance of accuracy . . . no over-measure deliveries, and an accurate record of total daily deliveries!*

Metering also assures the customer a product free from foreign matter, because of the fine mesh sediment trap used as a Red Seal meter accessory.

6. *Elimination of complaints of shortage. Valuable good-will created.*

Customers being accustomed to paying for water, gas, electricity, gasoline from dispensing pumps, etc., by meter readings, prefer metered deliveries—and especially by ticket-printer meter.

7. *Gallonage is saved, by elimination of wasteful spillage. With meter on truck, unauthorized withdrawals or carelessness readily can be detected.*

Increase in drivers' efficiency, due to this metered check on deliveries. Metering also smooths drivers' contacts with customers . . . does away with disputes and misunderstandings.

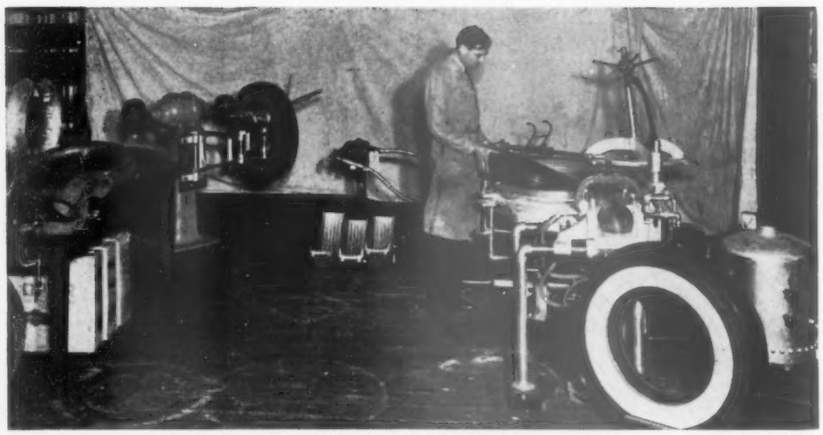
RED SEAL *Petroleum Meter Bulletin 591 tells fully how meters pay for themselves over and over again, by accounting for every gallon and by putting product handling on a modern efficiency basis.*

NEPTUNE METER COMPANY *Main Office: 50 W. 50th St., New York. Branches at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, Toronto.*

# ERED SEAL METERS

Gasoline Dispensing Pumps • Meters for: Barge and Tank Car Unloadings, Storage Transfers, Loading Racks, Delivery Tank Trucks

1791



Small installation of recapping equipment. Additional units can be added to meet increases in demand

gauges at the stations are accurate. Most companies check these gauges against a master gauge.

### Tire Service on Lift

Careful inspection of the tires when the car is on the lift will detect uneven wear caused by improper alignment of front and rear wheels. An inspection of the inside of the tire once a month, or with each lubrication job, will show up breaks or cuts that may be vulcanized if the tire is otherwise in good condition.

### Wheel Balancing

Those jobbers not yet in the wheel balancing business themselves, may want at least some of their stations to equip themselves for doing this tire-saving service. An unbalanced wheel neglected for any length of time, causes the tire to wear through, break the tread, with danger of a blowout. As with the tire recapping business, many oil jobbers have installed wheel balancing machinery in one key station. The other stations test the wheels for balance every 5000 miles, using an inexpensive wheel spinner, and sending those in need of balance to the key station.

One authority in discussing tire renewing and its place in war, states that wheel balancing is a MUST for operators doing tire renewing, for the reason that tires are safest when balanced and, of course, last longer.

A complete round-up of the wheel balancing business was given in the August 13th issue of NPN.

Those station men who are educated by their suppliers to give tire inspection service will be rendering a very vital wartime service. There is nothing complicated about this. When the operator sees that a customer's tire is worn, he should ask for permission to remove and inspect it. Then the tire is placed on a tire spreader, if the station has one. Otherwise the job is done by hand. This will show whether or not the carcass is in good condition. By letting the owner see for himself the good condition of the carcass, he will see the good sense in giving it a new tread. If the carcass has been ruined through overloading or underinflation, the owner sees why it would be false economy, or dangerous, to have the tire retreaded. The defective tire will then find itself on the way to the federal storehouse where it will be turned into reclaimed rubber for defense purposes. The owner will be compensated on a price scale set up by the government.

### Tire Conservation

Car owners realize that there is "no foolin'" now on the tire question. But they have been educated so long to depend on their station man to warn them about changing of oil at the proper time, to remind them of battery and other services, that they are going to look to the station man for a lot of advice and tire service. Many former trite suggestions are now going to be considered more important and highly appreciated. Among them are:

### Tire Thieves

Suggestions to prevent thievery. Rotation of tires, particularly the spare, is helpful. The thief will take more chances in order to steal a new spare tire.

There is still a supply of special tire locks to take the place of the regular lug on the spare tire.

Most customers will appreciate being reminded to check frequently to see if the spare has been stolen. Many motorists have gone so long without looking at the spare until they need it, they will now need, and appreciate, frequent reminders to take a look.

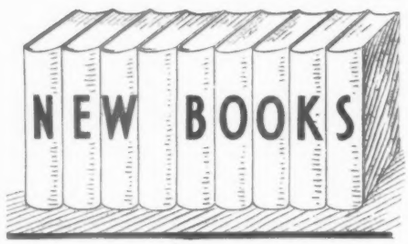
Padlocks for locking garage doors, perhaps never locked in the past, are finding a nice sale at many service stations.

Another item frequently forgotten by the motorist is the car jack and lug tool for taking care of a flat tire.

## OPM Lists Methods To Conserve Tires

Aimed to conserve rubber, OPM has called on nation's car owners to preserve their tires by observing following 10 rules:

1—Have worn tires retreaded instead of buying new ones.
2—Cut out high speeds.
3—Inflate tires weekly to recommended levels.
4—Don't stop short or make jackrabbit starts.
5—Avoid striking curbs, road holes, rocks, etc.
6—Check wheel alignment twice a year.
7—Repair all cuts, leaks, breaks, promptly.
8—Change wheel positions every 5000 miles.
9—Always get the tire made to fit the rim of your car.
10—Don't speed around curves.




### Books on Motor Vehicle Taxes and Regulation Now Ready

The 1942 editions of the Legislative Series of three books covering state laws on taxation, equipment requirements and size and weight regulations of motor vehicles, have just been published by the National Highway Users Conference.

The volume on "State Restrictions on Motor Vehicle Sizes and Weights" shows at a glance each state's maximum size (length, height, width, etc.) and weight (gross, axle, tire) limitations on all types and combinations of vehicles. This material has been checked and approved by state officials.

Special taxes imposed on motor vehicles are given by states in "Registration Fees and Special Taxes for Motor Vehicles." Each state's section covers general registration and tax data, private vehicle fees, and for-hire passenger and private vehicle taxes. The feature of this book is the latest data on diesel fuel taxation.

"Equipment Requirements for Motor Vehicles" gives the statutory and regulatory requirements of equipment presented for the separate states and the Interstate Commerce Commission by means of verbatim extracts, digests and tables. The material covers lights (clearance, side-marker, headlight, stop and rear reflectors), brakes, safety glass, flares and fuses and other mandatory equipment.

The books are available at $1.25 each from National Highway Users Conference, Washington, D. C.

# 80 SERIES PREMIUM 10-W and 20-W OILS NOW!

*We have the oil — + cars to ship it!*

(IF YOU ORDER NOW)

STRAIGHT RUN ★ VACUUM DISTILLED
FROM SELECT MID-CONTINENT CRUDE
HIGH VISCOSITY INDEX ★ WAX-FREE
EXTREMELY LOW POUR-POINT

PROVEN PETROLEUM PRODUCTS

PRODUCERS
REFINERS
MARKETERS

THIS YEAR more than ever before you need winter oils that will remain fluid during the transition from bitter cold to blistering heat . . . Oils that give safe, dependable lubrication no matter how low the temperature drops. National Defense demands special care to prevent costly wear and wrecked engines. At BAYOU STATE we've become a part of the National Defense Program by almost doubling our refinery through-put . . . meeting the demand for this better winter oil. Specifications compare favorably with the best on the market. . . . Write, wire or phone BAYOU STATE. Prices are right!

## *Bayou State*

OIL CORPORATION

SHREVEPORT, LOUISIANA

# OUT-IN

## the PHARIS FIRST-LINE Approved *Autosaler* PROGRAM

**Pictured above is Pharis AUTOSALER — the mobile merchandising display unit which is revolutionizing service station operation and opening a new profit era.**

**Surveys have established that four out of every five motorists PREFER to buy ALL their automotive needs at their neighborhood stations. With AUTOSALER, you can offer the quality, the price, the assortment and shopping convenience to turn that preference into profit. AUTOSALER is based on the proved principle that SEEING MEANS SELLING.**

**Pharis AUTOSALER is far more than just a unit for displaying accessories. It's part of a comprehensive plan of jobber and dealer supervision, training, counsel and practical help designed to make every AUTOSALER installation a revelation — in added sales and profit.**

# FRONT!

## With a Program Tailored to the Needs of Petroleum Jobbers

You independent jobbers and dealers (and include us, too, please) would be the last ones to put profit before patriotism, cash before country. If Uncle Sam feels certain restrictions on your output and activities will help win the war, then it's okay with you.

But you've got to eat! And Pharis AUTOSALER is what will bring home the bacon . . . more so than ever during this national emergency when gasoline sales may be restricted. New car sales may also be further restricted with the result that car dress-up items will be in great demand and it will be the patriotic duty of every car owner to keep his car in good operating condition.

Get out front with Pharis AUTOSALER, the most sensational merchandising development in service station history. AUTOSALER combines BALANCED SELLING with VISUAL SELLING. It's a complete accessory department on wheels, brought right to the car door for seeing, suggesting and selling! AUTOSALER gets you the complete automotive business of all your customers.

Pharis AUTOSALER brings a long profit at chain store prices to the local station, without investment in fixtures or equipment. The only investment is in merchandise pre-tested for fast-moving salability, bearing the Pharis name or Pharis First-Line Seal of Approval, and carrying a real guarantee.

Monthly Profit Pointers, direct mail and newspaper ads, seasonal promotions, complete stock control system and retail price control which guarantees profit are part of the well-rounded Pharis AUTOSALER plan to keep you OUT IN FRONT!

## MOTORISTS NEED MORE THAN GAS, OIL and TIRES

That's why it's unsound for you to put all your eggs into a couple of frail baskets that might break wide open any day as the war effort becomes more urgent.

Look how Pharis AUTOSALER protects you. It gives you more than 200 items every motorist must have, and that you can sell at a long profit.

And Pharis farsightedness has made it possible for us to guarantee you sufficient merchandise for your present requirements. But never before has this suggestion been as important: ACT NOW!

**THE PHARIS TIRE AND RUBBER CO.**
NEWARK, OHIO

X Add—that the Autosaler Program can be started for only $2.00

THE PHARIS TIRE AND RUBBER CO., Newark, O.

*Gentlemen: I'd like to be protected against bad business resulting from shortage of things to sell during the national emergency. Show me how AUTOSALER will do it.*

NAME .....

ADDRESS .....

CITY STATE

# Service Stations Face More Competition As Car Dealers Bid for 'Lube' Business

AUTOMOBILE dealers today are fighting to take business, even gasoline sales, away from oil company stations. Faced in many cases with the loss of their entire revenue from new car sales in the near future, they are already out drumming up work for their service departments to enable them to continue in business.

They are offering car owners "protective", "preventive", and "factory prescribed" maintenance services. The sales argument they give plays on the coming shortage of new cars and rubber and points out that services afford the means for the owner to lengthen the life of his car and get the utmost mileage possible from his tires.

The services offered run all the way from regular chassis lubrication and oil change to a complete overhauling of the car, when necessary. A good many of them are in direct competition with those that oil company stations provide for their customers, and some of them have installed gasoline pumps.

With these maintenance services, in a new dress, the car dealers are organizing sales promotion programs to bring old customers back to their shops, only a small proportion of whom normally come in for regular maintenance service. Surveys show that approximately 55% of a car dealer's customers are those who have bought cars within the year, and that a very small share of his business comes from customers who bought their cars more than three years ago. The dealers believe that if they can get the work of the customers now on their inactive lists, for whom maintenance expenditures are more necessary than with owners of newer models, they can greatly increase the revenue of their service departments. This group of prospects they are going after are principally the oil stations' customers.

### Car Makers Co-operate

In their programs to increase the business of their service departments, the car dealers already have the co-operation of some of the car manufacturers, who want to see it made possible for at least some of their dealers to stay in business until the war clouds break, even with no new cars to sell. The estimate most commonly heard is that between a third and a half of the dealers will close their places of business when new cars can't be had from the factories. The rest will hang on, in the hopes of getting a small number of new cars, selling used cars, but mainly pushing their service departments.

This class includes the car dealers who have already installed modern lubritoriums, headlight testing machines, wheel balancing, front end alignment and other servicing equipment. It is said that the revenue of the service departments of such dealers is now 60 to 70% of their entire overhead, even up to 90% in a few cases; while the average revenue from the service department for all dealers is only 30 to 35% of total overhead. The supervisors and district managers from the automobile factories are now working with the former group to bring their service department revenue up to the point where it will carry the entire overhead.

### 'Maintenance Work Will Double'

The supervisors tell the dealers that maintenance work on passenger cars will be double what it is now when their owners fully appreciate the necessity of giving them the best of care, if they are to continue to ride in automobiles. As already indicating this trend they have data to show that, while the average revenue from a job in the service and repair department two months ago was $6.75, it is now higher and they predict the individual car dealer can make the average in his own shop $10 or over. The supervisors are telling the car dealers there will be more competition for maintenance work, principally from the oil company stations; but that the dealers have a gold mine in their inactive customer lists if they will get out and work them.

Here are a few illustrations of the help the car manufacturers are already giving their dealers, to aid them in getting a larger proportion of the increased maintenance business. More factories are expected to announce some sort of dealer help programs in the near future.

### Manufacturers' Offer Programs

Chrysler, Dodge, De Soto and Plymouth dealers are being offered, with the manufacturer's approval, a program of "Factory Service Recommendations", to be bought by the car owner at prescribed mileage intervals. (See Table 1 for a list of the recommended services, which includes lubrication every 1000 miles and an oil change every 2000 miles). The car owner taking this service, on his first visit to his dealer, is sold the maintenance work prescribed for the mileage of his car and as based on a thorough inspection by the shop's mechanics. Then he is given a record form, which tells him what the factory recommends for every 1000 miles of driving thereafter. Some dealers are buying a dial card, which is attached to the inside of the sun visor, which the driver can rotate to learn what services he should have at the 1000-mile periods.

These dealers continue to emphasize that their chassis lubrication is by the factory-approved methods and with factory-approved grades of lubricants; that their mechanics are trained in fac-

**TABLE 1**

**1000-Mile Maintenance Servicing Plymouth-Chrysler Dealers are Recommending, To Help their Customers Get Longer Use from their Cars**

1000 Miles—Lubricate, change oil, check battery, check fluid drive.
2000 Miles—Lubricate, check alignment, check battery.
3000 Miles—Lubricate, change oil, clean air cleaner, check battery.
4000 Miles—Lubricate, check battery.
5000 Miles—Lubricate, change oil, check transmission-differential, check battery.
6000 Miles—Lubricate, check battery, tune motor, pack front wheels, lubricate steering gear, clean air cleaner, check alignment.
7000 Miles—Lubricate, change oil, check battery, adjust brakes, cross tires.
8000 Miles—Lubricate, replace oil filter, check battery.
9000 Miles—Lubricate, change oil, general tightening, clean air cleaner, check battery.
10,000 Miles—Lubricate, check alignment, replace sparkplugs, check transmission-differential, check battery.
11,000 Miles—Lubricate, change oil, check battery.
12,000 Miles—Lubricate, check battery, lubricate steering gear, clean air cleaner, pack front wheels, tune motor.
13,000 Miles—Lubricate, change oil, check battery.
14,000 Miles—Lubricate, check battery, check alignment, adjust brakes, cross tires.
15,000 Miles—Lubricate, change oil, check transmission-differential, lubricate universal joints, clean air cleaner, check battery.
16,000 Miles—Lubricate, check battery, replace oil filter, check fluid drive.
17,000 Miles—Lubricate, change oil, check battery.
18,000 Miles—Lubricate, check battery, clean air cleaner, lubricate steering gear, pack front wheels, general tightening, check alignment, tune motor.
19,000 Miles—Lubricate, change oil, check battery.
20,000 Miles—Lubricate, check battery, check transmission-differential, check alignment, replace sparkplugs.
(For 21,000 to 30,000 miles, the same services are repeated as for 11,000 to 20,000 miles.)

# Trade-Mark

**...Webster says, is "a word, letter, device, or symbol, used in connection with merchandise and pointing distinctly to origin..."**

At Gulf the definition of trade-mark is carried somewhat further. The Orange Disc on any Gulf product is intended to do more than point out its origin.

It stands also as a symbol of its quality—of determination to make the best petroleum products that skill, science, loyal employees, and alert management can jointly achieve.

GULF

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**3800 Gulf Building, Pittsburgh, Pa.**

tory methods and that they use only factory-approved parts.

The Pontiac company is offering its dealers a "Prescribed M.D. (motor doctor) Maintenance Service" program to sell their customers. This plan makes it easy for the car owner to determine what services his car needs, what the cost of the necessary work will be and provides for time payments for the immediate work. To arouse the interest of Pontiac owners in this program, they are being sent a check list and asked to note the repairs or adjustments needed, which they are conscious of when driving. These services include even minor items and are thus grouped:

"Body Repairs: clean and polish, remove dents in fenders and body, repaint car, clean upholstery, install new seat covers, replace floor mats.

"Chassis Repairs: brakes, clutch, transmission, rear axle, steering, align front axle, replace or regroove tires, replace muffler or tail pipe.

"Motor Repairs: tune motor, grind valves, install new piston rings, recondition carburetor, repair water pump, flush cooling system, replace radiator hose, replace fan belt.

"Electrical Repairs: replace battery, recondition starter, recondition generator, repair distributor, replace spark plug wires, check up headlights."

When the owner brings his car in, with his own check list of needed services, the shop makes its own inspection of what is necessary to put the car in good running condition, and the owner is given the cost figure before any work is done.

### Give Cost in Advance

In introducing this new program to its dealers, the Pontiac company points out that it recommends work according to the individual car's needs, rather than based on mileage, and that, as a result, the maintenance program can be easily sold to owners of cars only a year or so old, because their cars should need only minor adjustments. The dealers is told that, by selling the owner only what his car actually needs, he will build up the confidence of his best customers, those who only recently purchased cars and thus, as their cars get older and need more work, he will continue to get their business.

In presenting this program, the Pontiac company recognizes principal reason that car owners in many cases avoid taking their maintenance work to the car dealer, namely, their feeling that the cost is always more than they anticipated. It believes that the present plan of selling only what the individual car needs and giving the owner the actual cost before the work is done will tend to offset this argument.

To aid the owner who wants to operate his car on a "keep-it-running" basis, the Pontiac program divides the maintenance work into three classifications, essential services, as-needed services and insurance services. They are described thus:

**Essential Services**

"These will include the few services, such as lubrication, oil changing, etc., which practically every car needs at about the same intervals. By keeping essential services to a minimum, the owner will not feel that he is being asked to buy unnecessary services. Proper merchandising of these essential services will keep owners coming to you at regular intervals."

**As-Needed Services**

"The time when cars will need these services will depenpd on how they are driven and the conditions under which they are operated. They include most of the common maintenance services which have previously been recommended on a mileage basis."

**Insurance Services**

"Services which aren't absolutely necessary but which add to the motorist's pleasure and security. The owner who can afford 'plus' services will buy this type of work. In selling insurance services you can be frank about the fact they are 'extras', at the same time pointing out the advantages they have for the discriminating motorist."

While the Chevrolet factory so far has made no public announcement of a special maintenance program devised to aid its dealers over the war period when they will have few, if any, new cars to sell, it has carried advertising in general magazines, telling owners to take their cars to Chevrolet dealers for maintenance service. The copy said:

"Chevrolet dealers have factory approved tools and repair equipment, expressly designed and built to handle any and all Chevrolet operations in the best way. This, together with Chevrolet dealers' trained mechanics, complete stocks of genuine Chevrolet parts, and their personal interest in maintaining this car's high reputation for dependability and economy, explains why it always pays to see your Chevrolet dealer for service."

The copy lists 12 services which this car's dealers universally offer. Lubrication comes first, and others which many oil company stations provide, include washing and polishing, lighting service and brake and shock absorber service.

### Seek Old Customers

In general, those car dealers interviewed by NPN who are already working to build up the revenue of their service departments, believe their best field of prospects is with their customers who bought their cars more than a year ago. Only a small proportion of such owners go back to the dealer for maintenance or even repair work. One survey showed that 55% of car dealers' service work came from owners of 1941 cars, 25% from owners of 1940 models, 6% from owners of 1939 models, 2% from owners of 1938 models and 12% from owners of 1937 and older cars. The dealers say if they can bring back these old customers, they will increase their service department revenue materially, because a greater amount of maintenance work is necessary on the older models.

The car dealers, however, recognize certain disadvantages they will have, principally through the competition of the oil company stations, in going after car owners for preventive maintenance work.

One is the lack of convenience for his customers, of the average car dealer's location. This would principally affect his securing the regular lubrication, car washing and minor maintenance services, which the oil company stations secure largely because they are located near the homes of a large proportion of their customers, or on their established routes of travel. The dealers believe this may be even more of a handicap in the future, if the public cuts down on the amount of driving, to save wear on cars and tires.

### Offer Pick Up Service

The automobile dealers have offset in part this disadvantage in location by operating service cars and motorcycles, to bring customers' cars in for work and to return them. In the future, as tire repair calls increase in number, also calls because of battery trouble, they believe the "pick up" service will have to be greatly extended. They also believe they will have to charge for service calls and make the service charge more than the present nominal 25c, which is actually collected on only a small proportion of calls.

In view of the coming higher cost of operating service cars, and the possible difficulties in getting replacement tires for such vehicles, some car dealers are considering the elimination of pick up service entirely.

Another disadvantage the car dealer sees in going after maintenance work in competition with oil company stations, lies in the fact that the motorist is not accustomed to going to his service department in the evenings for lubrication and other maintenance servicing, as he is to the oil company station. If the dealer could now get this evening business, there is doubt if he could handle it profitably because the overhead costs for his large service department are much higher than for the oil company station's lubritorium. The inconvenience of the car dealer's location would also work against his getting any volume of evening business.

Still another disadvantage the car dealer faces in going after maintenance work is his difficulty in keeping first class mechanics on his payroll. Because of the draft and the demand for these workers in plants making war mate-

# *Another* GRAVER EXPANSION ROOF

rials, he will have to depend on older and less skilled men, and his rate of turnover of labor will be higher, with an accompanying increase in operating costs.

### Notes on a Few Dealers' Plans

Below are notes from an NPN staff writer's interviews with a few car dealers in Cleveland who have well-equipped service departments, such as are to be found in every town, telling of their plans and problems.

A Packard agency in a residential shopping district: Now averages 250 customers a month out of 1100 on its active list. Average revenue from a job in lubritorium is $2.87 (chassis lubrication brings 90c); from a job involving mechanical work $5.86. Average revenue per customer, including parts and accessories, is just under $10, much higher than general average. This dealer plans to work inactive list and thinks he can build service department up to point where it will carry his overhead, and sale of only a few new or used cars a month will let him keep on in business.

Plymouth and De Soto agency, on main thoroughfare in outlying district: Put nearly $5000 into modernizing service department a year ago. Has white enamel cabinets in 6 servicing departments. Services include lighting, front end and steering, engine analyzing, brake service, carburetor and fuel pump, lubrication. Has taken on the factory recommended mileage servicing plan and hires a man to check his prospect list and try to bring those on inactive list back as regular customers.

Chrysler-Plymouth distributor, near business section: Just finishing modernizing service department with wallboard backs and panels. Says present tire situation confirms his judgment, as he has already put in wheel balancing and front end equipment and made arrangements with a retreading agency of his tire supplier to retread customers' tires promptly. Installed a second lift, says lubritorium now takes care of 40 to 50 cars a day. Gets $1 for chassis lubrication. To help carry his overhead, also put in a household appliance line, attractively set off in one corner at front of service department—radios, clocks, mixers, irons, bicycles, etc.

Being also a distributor of cars for part of Ohio, this dealer thinks he can get by without cars to sell, but thinks few dealers can make the grade unless their present revenue from service department is much higher than the general average of around 35%. He put his service and parts business on strictly cash basis, as one way to cut down overhead.

Dodge-Plymouth dealer on main street, nearly downtown: Planning to push carburetion work, motor tuneup, adjustment of timing, resetting valves, as means to provide better car performance with lower octane regular grade gasoline. Didn't believe he could keep his service department open evenings because of high overhead. Will try to arrange for and route maximum possible work through service department in regular hours. Planning to let his car salesmen go after Jan. 1.

Ford Dealer, downtown: Moved lubritorium to front of service room, put in modern backboard, featuring factory-approved, point-by-point lubrication, by factory-trained mechanics. Going after business of all car owners for whom his location is convenient and is working his inactive list. Said he would put used cars in his display room, if he couldn't get new cars and, if he couldn't get any cars to display, would consider putting a lift there and doing de-luxe lubrication work, with mirrors on pillars and mechanics in snappy white uniforms.

* * *

## Sloan Tells Automobile Dealers Of Need for Better Management

A bright spot in the current discussion of how automobile dealers can stay in business, with new car sales greatly curtailed, perhaps entirely eliminated for some dealers, was pointed out by Alfred P. Sloan, Jr., chairman of General Motors Corp. This was in his comment to *Business Week* on a recent article in that publication, entitled, "Carless Dealers".

Losses due to used cars being appraised at higher values than they can be liquidated for in the markets, in normal operations dissipate 80% of the profits from new car sales, accessories sales, service and other departments of the dealer's business, said Mr. Sloan. He continued:

"Curtailment, such as we are now experiencing, has changed the market from a buyer's market to a seller's market. Therefore, these used-car losses have largely disappeared; in fact, they have disappeared and in place of losses we are actually getting profits, due to the fact that the dealers are taking in used cars at a price at which they can sell them and make a profit. You can readily see, therefore, that an expense factor equivalent to 80% of the profits before it is deducted now is eliminated and the profit, whatever it may be on the reduced scale of operation, is enhanced.

"So far as General Motors dealers are concerned, we realize that we have a problem here, but we do not think it is an impossible problem. In other words, we hope that, even if the business was curtailed as much as 75%, that, by better business management; by increasing accessory sales to the extent possible; by service sales (which are certainly going to be greatly increased) and in other ways, that we can pull through with only a minor degree of liquidation.

"Of course, dealers who continue on as they have been going and will not recognize the changed circumstances, will probably be those who will go. They ought to go, anyway, because that is not the way to run any business."

Mr. Sloan said that an economic study made of between 15,000 and 20,000 General Motors dealers brought out that, without any serious reduction of expenses, if the business was only one-third of what it was in 1941, these dealers could still make a profit, **providing they were operating in a seller's market.** "I am sure that, with careful attention paid to expense, this reduction could be increased to 75% and that we could still continue to carry on," he concluded.

## Dog and Cat Restroom

H. W. Johnson, Johnson High Test Oil Co., Freeport, Ill., recently sent NPN a photograph of a dog and cat restroom established at that company's service station in Kewanee, Ill. A reproduction of this innovation is shown.

In sending the picture Mr. Johnson was very emphatic in stating that this enterprise was not a subsidiary or branch of his company and that his organization assumed no liability in the event that a cat and a dog took a notion to avail themselves of this service at the same time. However, C. E. Johnson, manager at Kewanee tells NPN that a tree in the enclosure provides a sanctuary for the cat in the event of hostilities.

The enclosure is 50 ft. around, 4 ft. high, made from ordinary white picket fence material purchased at a lumber yard. The gate is 3 ft. wide and opens facing the station.

# Equipment Personals

New sales and engineering offices of Merco Nordstrom Valve Co. and Pittsburgh Equitable Meter Co. are to be opened at San Francisco and Seattle. **Capt. A. E. Higgins,** vice-president, announces these offices are a part of the expansion activities of the two companies to give increased service on the West Coast. **Russ Waters** is branch manager at San Francisco, Hobart Building, 582 Market St. Assistants are **Fred D. Webster, R. L. Ford** and **Gilbert T. Bowman,** who has been at the Oakland plant. At 110 West Denny Way, Seattle, will be **Frank P. Tangney** and **William R. Dominick. H. Boezinger,** vice-president, is in charge of sales for the entire West Coast.

* * *

**W. T. Randall,** vice-president and general manager of Neptune Meters Ltd., Toronto, Ont., announces that the company has moved into its new plant at Long Branch, near Toronto. The new plant has a 400 ft. frontage on Lakeshore Rd., occupies 10 acres and provides 30,000 sq. ft. of floor space. Construction of the new plant, Mr. Randall said, was necessitated by greatly increased meter business and by large war contracts for precision instruments which have been awarded to Neptune Meters Ltd. The company will also continue operation of its old plant at 345 Sorauren Ave., Toronto.

* * *

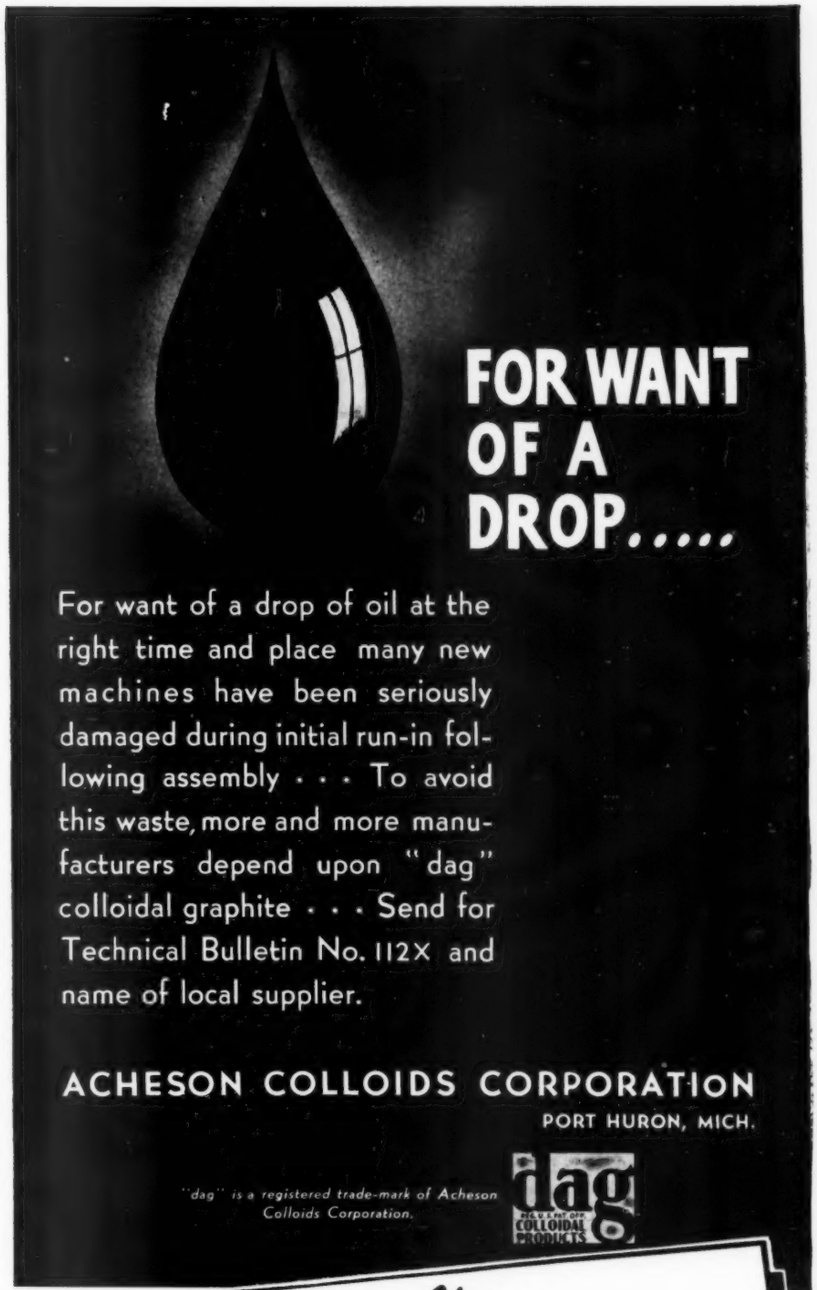
**Arthur B. Ricketts,** 58, vice-president and director of Neptune Meter Co. and of its Canadian subsidiary, Neptune Meters Ltd., was killed Dec. 13 in an automobile accident near his home in Rockville Centre, Long Island, N. Y. Mr. Ricketts, who leaves a wife and two children, has been manager of Neptune's factory at Long Island City since 1917. He joined Neptune in 1907.

* * *

**Arch Galbraith,** special representative of Erie Meter Systems, Inc., is shuttling between Pittsburgh and Washington with more regularity than President Roosevelt to his Hyde Park home. Said Mr. Galbraith, just prior to the New Deal's Thanksgiving Day: "Yep, hope to get home if I catch a plane or reasonable facsimile thereof". F. J. Phillips, Tamaqua, Pa., Erie's supervisor, is also well acquainted with the nation's capital and seems of the opinion that maybe this is "home".

* * *

**Alphonse V. Burder,** New York, formerly assistant treasurer of the Balco Dispenser Corp., recently was appointed to the consumers durable goods section, division of accounting, analysis and review, Office of Price Administration. More recently, Mr. Burder was a project accountant for the Public Buildings Administration, Federal Works Agency.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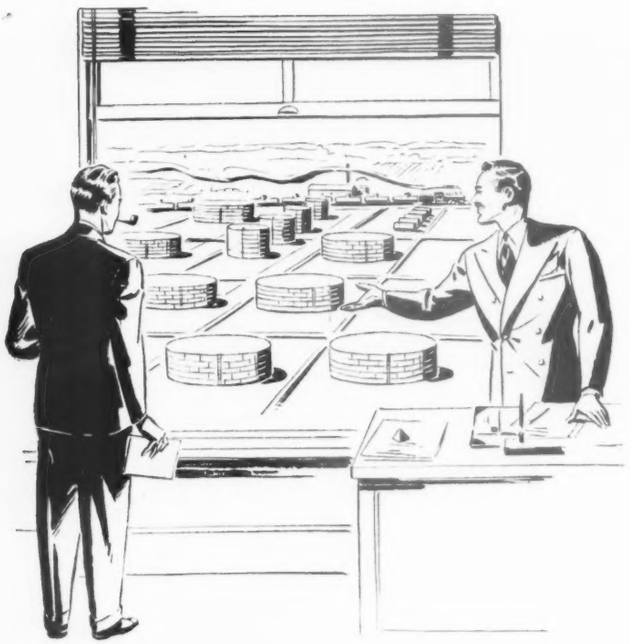

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# TRADEMARKS

***The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.***

MICRIS, Ser. No. 446,973, Harry R. Lewis Co., Warren, Pa. Filed: Sept. 11, 1941. For petroleum wax. Published: December 9, 1941.

ATLANTIC, Ser. No. 446,558, The Atlantic Refining Co., Philadelphia, Pa. Filed: August 27, 1941. For furnace oils and fuel oils. Published: Dec. 9, 1941.

MET-OX and representation of Wings. Letter A on shield in center of wings. Ser. No. 437,537, United States Aviex Corp., New York, N. Y. Filed: Nov. 2, 1940. For lubricating oil. Published: December 16, 1941.

Representation of wings, Letter A on shield in center of wings, Ser. No. 437,538 United States Aviex Corp., New York, N. Y. Filed: Nov. 2, 1940. For lubricating oil. Published: December 16, 1941.

FRECS, Ser. No. 442,546, Baruch Cerf, Los Angeles, Calif. Filed: Apr. 14, 1941. For additive in the nature of a lubricant for circulating mud for drilling of wells. Published: December 16, 1941.

PURGOYL, Ser. No. 447,969, W. H. Barber Co., Minneapolis, Minn. Filed: Oct. 21, 1941. For lubricating oils. Published: December 16, 1941.

BEAVER, Ser. No. 445,563, Sterling Oil Co., Minneapolis, Minn. Filed: July 22, 1941. For petroleum products—namely, gasoline, kerosene, fuel oils, tractor fuels, lubricating oils and greases. Published: December 23, 1941.

Fanciful drawing of man in fencing stance with sword in hand, Ser. No. 448,016, The Toledo Steel Products Co., Toledo, Ohio. Filed: October 22, 1941. For break-in motor oil. Published: December 23, 1941.

ATLANTIC ARDELO, Ser. No. 448,089, The Atlantic Refining Co., Philadelphia, Pa. Filed: Oct. 25, 1941. For lubricating oils. Published: December 23, 1941.

ARDELO, Ser. No. 448,090, The Atlantic Refining Co., Philadelphia, Pa. Filed: Oct. 25, 1941. For lubricating oils. Published: December 23, 1941.

ULTRAMO, Ser. No. 448,091, The Atlantic Refining Co., Philadelphia, Pa. Filed: Oct. 25, 1941. For lubricating oils. Published: December 23, 1941.

ATLANTIC ULTRAMO, Ser. No. 448,092, The Atlantic Refining Co., Philadelphia, Pa. Filed: Oct. 25, 1941. For lubricating oils. Published: December 23, 1941.

LUBKLEEN, Ser. No. 448,212, West Disinfecting Company, Long Island City, N. Y. Filed: Oct. 28, 1941. For chemically compounded solvent for degreasing, cleaning and lubricating all types of metal parts, machinery, and the like. Published: December 30, 1941.

TOPS-AL, Ser. No. 447,947, Carl E. Lehmann, Wichita, Kansas and Vista, Mo. Filed: Oct. 20, 1941. For gasoline, motor oils and lubricating oils and greases. Published: December 30, 1941.

## Extends Draftee Benefits To Include Volunteers

Indiana Standard employes who volunteer in the Army or Navy will receive one month's pay upon completion of a month of military service and an additional month's pay upon discharge after completion of a year's service if they have been with the company for at least a year, President Edward G. Seubert announced. Those who have not been with the company a year will receive one month's pay. Employes, under specified conditions, will be returned to their jobs or similar positions when they return from military service. All benefits are retroactive to Sept. 16, 1941 and are the same as those applying to draftees, National Guardsmen and reserves.

A new provision to the company's policy gives employes full time credit for company service while they are on military duty, company states. This affects their status under vacation, sickness and other benefit plans.

# MARKETS

### Mid-Western

CHICAGO, Jan. 3.—Demand for Ethyl gasoline was reported brisk throughout the past week by most suppliers at Chicago. Several reported unsuccessful attempts to buy. Cold weather stimulated burner fuel demand. Quotations for all products were unchanged.

Open spot sales reported by 4 marketers during the week were: 12 cars 80-82 oct. Ethyl at 6.5c; 11 cars 72-74 oct. 5.875c; 5 cars 60 oct. & below at 5.25c; 3 cars 41-43 kerosine at 3.875c; 4 cars No. 2 straw, 2 cars at 3.375c, and 2 cars at 3.5c; and 2 cars No. 3 fuel at 3.375c, FOB Group 3.

Refiners Group 3 quotations ranged 7.1 to 7.4c for 80-82 oct., 6 to 6.375c for 72-74 oct., 5.25 to 5.625c for 60 oct. & below, 4.375 to 4.75c for 41-43 kerosine, 3.6 to 3.8c for No. 2 straw, and 3.5 to 3.7c for No. 3 fuel. Marketers Group 3 quotations ranged 6.125 to 6.5c, 5.625 to 5.875c, 5.125 to 5.25c, 3.75 to 4.125c, 3.375 to 3.625c, and 3.375 to 3.5c, for the 6 products, respectively.

### Gulf

NEW YORK, Jan. 3.—Little activity was reported by Gulf Coast refiners the week ended Jan. 3. Most products were closely held, although gasoline was said to be more plentiful than for some time past. Buyers were described as holding off generally on gasoline purchases because of the prospect of reduced civilian consumption resulting from restrictions on tire sales.

Inquiry for 60,000 bbls. 72-74 oct. (ASTM) leaded gasoline "or any other grade" was reported. Cargo of 80,000 bbls. 72-74 oct. was offered at 6.25c for immediate to early-January lifting, coastwise. Offering of "min. 72 oct." (ASTM) at 6.125c also was reported. Seller previously had reported offering 73 oct. leaded at 6.5c.

Inquiry for 100,000 bbls. of 41-43 kerosine for January lifting, coastwise, was reported, but buyer indicated willingness to take delivery "any time". Kerosine quotations ranged from 4 to 4.5c. One refiner reported quoting 4.5c on an inquiry for 25,000 bbls. for immediate lifting, coastwise. Small barge-lot inquiries also were reported.

Cargo inquiry for 75-85,000 bbls. Bunker "C" was reported by refiner quoting $0.90. Other refiners' quotations ranged from $0.85 to $0.96.

Split-cargo inquiry totaling "about 90,000 bbls." was reported, to comprise approximately 45,000 bbls. of 75 oct. (ASTM) leaded gasoline, 30,000 bbls. of "high octane number light diesel fuel," and balance of "other products", for late-January to early-February lifting. Destination was not disclosed.

### Atlantic Coast

NEW YORK, Jan. 3.—Fuel oils were firm along the Atlantic Coast the past week, with suppliers generally reporting heavy shipments to regular accounts and little material available for spot buyers.

Inquiry for No. 2 fuel at New York was particularly active. Supplies were closely held at 5.1c barges and 5.2c tank cars. Cold weather and drops in inventories were responsible for the "frantic" desire to buy.

No let-up in shipments of gasoline was reported, with good driving weather supporting demand. New Orleans supplier said gasoline was "very tight", but northern suppliers reported good positions. Two seaboard suppliers reported reduction of housebrand gasoline from higher ratings to 80 and "80 plus" oct., respectively. Reduction by one from 75 oct. (CFR) to 73 oct. also was reported.

Supplier of kerosine at New Orleans advanced his quotation 0.375c to 4.875c. Other New Orleans quotations ranged upward from 4.25c.

Two sales of Bunker "C", 10,000 bbls. each, were reported at New York at $1.40 per bbl. Quotations of harbor suppliers were unchanged, ranging from $1.35 to $1.45. Grade "C" continued tight and in heavy demand.

### Mid-Continent

TULSA, Jan. 3.—Heavy demand for Ethyl gasoline with supplies closely held continued in the Mid-Continent the past week. Action of Ethyl Gasoline Corp. permitting reduction of octane rating of Ethyl to 78 oct. ASTM had many refiners "considering the matter." Two Oklahoma refiners reduced Ethyl octane rating to 78 and several others indicated they would follow "general trade practice."

West Texas refiner withdrew his quotation for 80-82 oct. Ethyl, discontinuing all sales "except to the government." He had previously been completing commitments to year's end and not accepting additional orders. One other West Texas refiner continued offering Ethyl to regular customers on "normal takings" basis at 7.2c. Several other Mid-Continent refiners also were restricting sales to regular customers.

December gasoline shipments were generally above last year by from 10% to as much as 33%, and continued at approximately same level as November, 1941. A few refiners reported "slight excess" over November. Lube shipments against contracts generally were good; some refiners reported heavy shipments. A few were accumulating "small" surplus of conventionally-refined bright stock, but little or no surplus of solvent-refined was reported. No confirmation of price concession reports could be obtained. Most refiners were limiting sales to small quantities and to regular customers.

"A lot" of wax inquiries were reported in market. At least one refiner was "pussyfooting around them while waiting for price ceiling situation to clear." Another withdrew his quotation for 128 A.m.p. white semi-refined wax, adding he was not quoting FOB Tulsa until price ceiling order was clarified.

### Pennsylvania

NEW YORK, Jan. 3.—All products continued in good demand in Western Pennsylvania the past week. Burning oil shipments were supported by sudden cold wave at the end of the week.

Call for gasoline continued good despite weather. Stocks of gasoline "lower than we like" were reported by one refiner. Naphtha was tight and in "terrific" demand. "Nobody has any and everybody is loaded with orders," refiners said.

Bright stock continued strong. Supplies were closely held. Sale of "several cars" at 25.5c was reported, with 25 p. t. said to be unavailable under 25c.

Heavy wax inquiry was reported. Some refiners continued making sales of scale to regular customers at "ceiling" prices but were not offering in the open market.

### California

LOS ANGELES, Jan. 3.—Natural gasoline was "extremely tight", with demand heavy and prices up 0.5c, according to several California refiners the past week. Quotations ranged from 5.25 to 5.5c. Request of District 5 Production Committee that crude producers further curtail output added somewhat to the tight natural gasoline situation.

Shortage of lead also was reported in some quarters. One plant was forced to close down while several refiners hauled their gasoline to other refiners for leading.

Export markets were quiet with no changes in quotations. Oil companies were asked to consider as a "military secret" all information regarding cargo sales of petroleum products.

# REFINERY and SEABOARD PRICES

## In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

**(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)**

### HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

***NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.***

## Summary of Daily Gasoline Prices (Dec. 30 to Jan. 5)

| | Monday Jan. 5 | Friday Jan. 2 | Wednesday Dec. 31 | Tuesday Dec. 30 |
|---|---|---|---|---|
| **U. S. Motor, (ASTM octane)** | | | | |
| **80-82 octane Ethyl:** | | | | |
| Oklahoma | 6.75 – 7.55 | 6.75 – 7.55 | 6.75 – 7.55 | 6.75 – 7.55 |
| Mid-Western (Group 3 basis) | 7.1 – 7.4 | 7.1 – 7.4 | 7.1 – 7.4 | 7.1 – 7.4 |
| N. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 7 – 7.625 | 7 – 7.625 | 7 –7.625 | 7 –7.625 |
| W. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 7.2 (1) | 7.2 (1) | 7.2 (1) | 7.2 (1) |
| **72-74 octane:** | | | | |
| Oklahoma | 6 – 6.375 | 6 – 6.375 | 6 – 6.375 | 6 – 6.375 |
| Mid-Western (Group 3 basis) | 6 – 6.375 | 6 – 6.375 | 6 – 6.375 | 6 – 6.375 |
| N. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 6 – 6.625 | 6 – 6.625 | 6 – 6.625 | 6 – 6.625 |
| W. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 6.125–6.2 (2) | 6.125– 6.25 | 6.125– 6.25 | 6.125– 6.25 |
| **63-66 octane:** | | | | |
| Oklahoma | 5.625– 6 | 5.625– 6 | 5.625– 6 | 5.625– 6 |
| Mid-Western (Group 3 basis) | 5.625– 6 | 5.625– 6 | 5.625– 6 | 5.625– 6 |
| N. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 5.625– 6.25 | 5.625– 6.25 | 5.625– 6.25 | 5.625– 6.25 |
| W. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 5.75 –5.8 (2) | 5.75 – 5.875 | 5.75 – 5.875 | 5.75 – 5.875 |
| **60 octane & below:** | | | | |
| Oklahoma | 5.25 – 5.625 | 5.25 – 5.625 | 5.25 – 5.625 | 5.25 – 5.625 |
| Mid-Western (Group 3 basis) | 5.25 – 5.625 | 5.25 – 5.625 | 5.25 – 5.625 | 5.25 – 5.625 |
| N. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 5.25 – 5.875 | 5.25 – 5.875 | 5.25 – 5.875 | 5.25 – 5.875 |
| W. Tex. (For shpt. to Tex. & N. M. dest'ns.) | 5.375– 5.5 | 5.375– 5.5 | 5.375– 5.5 | 5.375– 5.5 |
| **Motor Gasoline, 72-74 octane (ASTM)** | | | | |
| New York harbor | 8 – 8.5 | 8 – 8.5 | 8 – 8.5 | 8 – 8.5 |
| New York harbor, barges | 7.9 – 8.5 | 7.9 – 8.5 | 7.9 – 8.5 | 7.9 – 8.5 |
| Philadelphia district | 8 – 8.25 | 8 – 8.25 | 8 – 8.25 | 8 – 8.25 |
| Baltimore district | 7.75 – 8.25 | 7.75 – 8.25 | 7.75 – 8.25 | 7.75 – 8.25 |
| **Motor Gasoline:** | | | | |
| **Western Penna. Bradford-Warren:** | | | | |
| Min. 80 Oct. ('39 Research) | 8 (1) | 8 (1) | 8 (1) | 8 (1) |
| 74-76 Oct. (ASTM) | 7.5 (1) | 7.5 (1) | 7.5 (1) | 7.5 (1) |
| 74-76 Oct. (L-3) | 7.5–7.75 (2) | 7.5–7.75 (2) | 7.5 –7.75 (2) | 7.5–7.75 (2) |
| **Western Penna. Other Districts:** | | | | |
| Min. 80 Oct. ('39 Research) | 7.75 (1) | 7.75 (1) | 7.75 (1) | 7.75 (1) |
| 74-76 Oct. (ASTM) | 6.75 – 7 | 6.75 – 7 | 6.75 – 7 | 6.75 – 7 |
| 74-76 Oct. (L-3) | 6.75 – 7 | 6.75 – 7 | 6.75 – 7 | 6.75 – 7 |

# REFINERY PRICES

## Gasoline—U. S. Motor (ASTM) except where otherwise specified

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| **OKLAHOMA** | | |
| 80-82 oct. Ethyl | 6.75 – 7.55 | 6.75 – 7.55 |
| 72-74 oct. | 6 – 6.375 | 6 – 6.375 |
| 63-66 oct. | 5.625– 6 | 5.625– 6 |
| 60 oct. & below | 5.25 – 5.625 | 5.25 – 5.625 |
| 60-62 400 e.p. | 5.375 (1) | 5.375 (1) |
| **MID-WESTERN** (Group 3 basis) | | |
| 80-82 oct. Ethyl | 7.1 – 7.4 | 7.1 – 7.4 |
| 72-74 oct. | 6 – 6.375 | 6 – 6.375 |
| 63-66 oct. | 5.625– 6 | 5.625– 6 |
| 60 oct. & below | 5.25 – 5.625 | 5.25 – 5.625 |
| **N. TEX.** (For shpt. to Tex. & N. M. dest'ns.) | | |
| 80-82 oct. Ethyl | 7 – 7.625 | 7 – 7.625 |
| 72-74 oct. | 6 – 6.625 | 6 – 6.625 |
| 63-66 oct. | 5.625– 6.25 | 5.625– 6.25 |
| 60 oct. & below | 5.25 – 5.875 | 5.25 – 5.875 |
| 60-62, 400 e.p. | 5.5 – 6 (1) | 5.5 – 6 (1) |
| **W. TEX.** (For shpt. to Tex. & N. M. dest'ns.) | | |
| 80-82 oct. Ethyl | 7.2 (1) | 7.2–7.25 (2) |
| 72-74 oct. | 6.125–6.2 (2) | 6.125– 6.25 |
| 63-66 oct. | 5.75 –5.8 (2) | 5.75 – 5.875 |
| 60 oct. & below | 5.375– 5.5 | 5.375– 5.5 |
| **CENT. W. TEX.** (Prices to truck transports) | | |
| 80 oct. & above | 7.375 (2) | 7.125 (2) |
| 72-74 oct. | 6.125 (2) | 6.125 (2) |
| 67-69 oct. | 5.625 (1) | 5.625 (2) |
| 62 oct. & below | 5.375 (2) | 5.375 (2) |
| **AMARILLO, TEX.** (For shpt. to W. Okla. & Tex. differential territory.) | | |
| 60 oct. & below | 5.375–5.875 (2) | 5.375–5.875 (2) |
| 60-62, 400 e.p. | 5.5 – 6 (1) | 5.5 – 6 (1) |

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| **KANSAS** (For Kansas destinations only) | | |
| 80-82 oct. Ethyl | 7.375–7.5 (2) | 7.375–7.5 (2) |
| 72-74 oct. | 6.3 – 6.375 | 6.3 – 6.375 |
| 63-66 oct. | 5.9 – 6 | 5.9 – 6 |
| 60 oct. & below | 5.5 – 5.625 | 5.5 – 5.625 |
| **ARK.** (For shipment to Ark. & La.) | | |
| 72-74 oct. | No Price | No Price |
| 70-72 oct. | 6 (1) | 6 (1) |
| 60 oct. & below | 5.5 (1) | 5.5 (1) |
| **WESTERN PENNA.** (Motor gasoline.) | | |
| *Bradford-Warren:* | | |
| Min. 80 oct. ('39 research) | 8 (1) | 8 (1) |
| 74-76 oct. (ASTM) | 7.5 (1) | 7.5 (1) |
| 74-76 oct. (L-3) | 7.5–7.75 (2) | 7.5–7.75 (2) |
| *Other districts:* | | |
| Min. 80 oct. ('39 research) | 7.75 (1) | 7.75 (1) |
| 74-76 oct. (ASTM) | 6.75 – 7 | 6.75 – 7 |
| 74-76 oct. (L-3) | 6.75 – 7 | 6.75 – 7 |
| **CENTRAL MICHIGAN** (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group). | | |
| U.S. Motor: (Oct. ASTM): | | |
| 72-74 oct. | 8.5 | 8.5 |
| 67-69 oct. | 7.7 – 7.75 | 7.7 – 7.75 |
| Str. run gasoline, excluding Detroit shpt. | 5.25 – 6.25 | 5.25 – 6.25 |
| **OHIO** (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances) | | |
| 72-74 oct. | 8.375 | 8.375 |
| **CALIFORNIA** U.S. Motor: | | |
| 58-61 grav., 375-400 e.p., 65 oct. & above | 6.5 – 8 | 6.5 – 8 |
| 54-58 grav., for outside state shipment | 5 – 7 | 5 – 7 |
| 54-58 grav., for instate shipment | 5 – 6.75 | 5 – 7 |

## Kerosine, Gas & Fuel Oils

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| **OKLAHOMA** | | |
| 41-43 grav. w.w. | 4.375– 4.75 | 4.375– 4.75 |
| 42-44 grav., w.w. | 4.5 – 4.875 | 4.5 – 4.875 |
| Range Oil | 4 – 4.375 | 4 – 4.375 |
| No. 1 P.W. | 3.875– 4.25 | 3.875– 4.25 |
| No. 1 straw | 3.5 –4.25 (2) | 3.5 –4.25 (2) |
| No. 2 straw | 3.625– 4.125 | 3.625– 4.125 |
| No. 3 fuel | 3.5 – 3.625 | 3.5 – 3.625 |
| U.G.I. Gas Oil | 3.625 (1) | 3.625 (1) |
| No. 6 fuel | $0.90 (1) | $0.90 (1) |
| 14-16 fuel | $0.95 (2) | $0.95 (2) |
| **MID-WESTERN** (Group 3 basis) | | |
| 41-43 grav. w.w. | 4.375– 4.75 | 4.375– 4.75 |
| 42-44 grav., w.w. | 4.5 – 4.875 | 4.5 – 4.875 |
| Range Oil | 4 –4.2 (2) | 4 –4.2 (2) |
| No. 1 p.w. | 3.875– 4.125 | 3.875– 4.125 |
| No. 2 straw | 3.6 – 3.8 | 3.6 – 3.8 |
| No. 3 | 3.5 – 3.7 | 3.5 – 3.7 |
| No. 5 | $0.85 (1) | $0.85 (1) |
| No. 6 | $0.85-$0.875 (2) | $0.85-$0.875 (2) |
| **N. TEX** (For shpt. to Tex. & N. M. dest'ns.) | | |
| 41-43 grav. w.w. | 4.125– 4.875 | 4.125– 4.875 |
| No. 1 P.W. | 4.2 –4.5 (2) | 4.2 –4.5 (2) |
| **AMARILLO, TEX.** (For shpt. to W. Okla. & Tex. differential territory.) | | |
| 41-43 grav. w.w. | 4.75 (2) | 4.75 (2) |
| No. 1 straw | 4.3 (1) | 4.3 (1) |
| **KANSAS** (For Kansas destinations only) | | |
| 41-43 grav. w.w. | 4.7 (1) | 4.7 (1) |
| 42-44 gravity w.w. | 4.8 – 4.875 | 4.8 – 4.875 |
| No. 1 p.w. | 4.2 – 4.3 | 4.2 – 4.3 |
| No. 6 fuel | $0.90-$0.925 (2) | $0.90-$0.925 (2) |

# REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

*NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.*

## Kerosine, Gas & Fuel Oil

(Continued)

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| **ARK.** (For shipment to Ark. and La.) | | |
| 41-43 grav. w.w. | 4.625 (1) | 4.625 (1) |
| No. 1 | 4 (1) | 4 (1) |
| No. 2 | 3.5 (1) | 3.5 (1) |
| No. 3 fuel | 3.5 (1) | 3.5 (1) |
| Tractor fuel, for shpt. to Ark. points only. | 5.125 (1) | 5.125 (1) |
| **WESTERN PENNA.** | | |
| *Bradford-Warren:* | | |
| 45 grav. w.w. | 6 – 6.25 | 6.25 |
| 46 grav. w.w. | 6.375 (1) | 6.375 (1) |
| No. 1 fuel | 6.125– 6.25 | 6.125– 6.25 |
| No. 2 " | 6 – 6.25 | 6 – 6.25 |
| No. 3 " | 6 –6.25 (2) | 6 –6.25 (2) |
| 36-40 gravity | 6 –6.25 (2) | 6 –6.25 (2) |
| *Other districts:* | | |
| 45 grav. w.w. | 6.25 – 6.375 | 6.25 – 6.375 |
| 46 grav. w.w. | 6.25 – 6.5 | 6.25 – 6.5 |
| 47 grav. w.w. | 6.375– 6.625 | 6.375– 6.625 |
| No. 1 fuel | 5.375– 6 | 5.375– 6 |
| No. 2 " | 5.375– 6 | 5.375– 6 |
| No. 3 " | 5.125– 5.875 | 5.125– 5.875 |
| 36-40 grav., Pittsburgh dist. prices excluded | 5 – 5.75 | 5 – 5.75 |
| **CENTRAL MICHIGAN** (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.) | | |
| 47-49 gravity w.w. | 5.8 – 6 | 5.8 – 6 |
| P.W. Distillate | 5.5 – 6 | 5.5 – 6 |
| No. 3 gas oil, Straw | 5 – 5.8 | 5 – 5.8 |
| U.G.I. gas oil | 4.5–4.875 (2) | 4.5–4.875 (2) |
| *Fuel Oils* (Vis. at 100). | | |
| 300-500 Vis. | 4 –4.25 (2) | 4 –4.25 (2) |
| 100-300 Vis | 4.5 (1) | 4.5 (1) |
| **OHIO** (S. O. Ohio quotations for statewide delivery) | | |
| Kerosine | 7 | 7 |
| **CALIFORNIA** | | |
| 40-43 grav. w.w. | 4.5 – 6 | 4.5 – 6 |
| *San Joaquin Valley:* | | |
| Heavy fuel | $0.80 | $0.80 –$0.85 |
| Light fuel | $0.85 | $0.80 –$0.85 |
| Diesel fuel | 2.75 – 4 | 2.75 – 4 |
| Stove dist | 2.75 – 4 | 2.75 – 4 |
| *Los Angeles:* | | |
| Heavy fuel | $0.75 –$0.80 | $0.80 –$0.85 |
| Light fuel | $0.80 –$0.85 | $0.80 –$0.85 |
| Diesel fuel | 2.75 – 4 | 2.75 – 4 |
| Stove dist | 2.75 – 4 | 2.75 – 4 |
| *San Francisco:* | | |
| Heavy fuel | $0.85 | $0.85 |
| Light fuel | $0.95 | $0.95 |
| Diesel fuel | 4.5 | 4.5 |
| Stove dist | 5.5 | 5.5 |

*Note*: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

## Lubricating Oils

**WESTERN PENNA.**

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

| | | |
|---|---|---|
| *Viscous Neutrals—No. 3 col. Vis. at 70° F* | | |
| 200 Vis. (180 at 100°) 420-425 fl. | | |
| 0 p.t. | 40.5 (1) | 40.5 (1) |
| 10 p.t. | 39.5 (1) | 39.5 (1) |
| 15 p.t. | 38.5 (1) | 38.5 (1) |
| 25 p.t. | 33 | 33 |
| 150 Vis. (143 at 100) 400-405 fl. | | |
| 0 p.t. | 38.5 (1) | 38.5 (1) |
| 10 p.t. | 37.5 (1) | 37.5 (1) |
| 15 p.t. | 36.5 (1) | 36.5 (1) |
| 25 p.t. | 31 | 31 |
| *Cylinder Stocks* | | |
| Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col. | | |
| 10 p.t. | 30.5 (1) | 30.5 (1) |
| 15 p.t. | 29.5 (1) | 29.5 (1) |
| 25 p.t. | 25–26 | 25–26 |
| 600 S.R. filterable | 15–16 | 15–16 |
| 650 S.R. | 15.5–16.5 | 15.5–16.5 |
| 600 fl | 16–17 | 16–17 |
| 630 fl | 17–17.5 | 17–17.5 |

**MID-CONTINENT** (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

| Vis. | Color | | |
|---|---|---|---|
| 60- 85— | No. 2 | 8 – 8.5 | 8 – 8.5 |
| 86-110— | No. 2 | 8.5 – 8.75 | 8.5 – 8.75 |
| 150— | No. 3 | 14.5 | 14.5 |
| 180— | No. 3 | 15 | 15 |
| 200— | No. 3 | 15–15.5 | 15–15.5 |
| 250— | No. 3 | 16.5 | 16.5 |
| 280— | No. 3 | 17–17.5 | 17–17.5 |
| 300— | No. 3 | 18–18.5 | 18–18.5 |

## Lubricating Oils (Cont'd)

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| Red Oils: | | |
| 180—No. 5 | 15 (1) | 15 (1) |
| 200—No. 5 | 15–15.5 (2) | 15–15.5 (2) |
| 280—No. 5 | 17.5 (1) | 17.5 (1) |
| 300—No. 5 | 17.5–18.5 | 17.5–18.5 |

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

| | | |
|---|---|---|
| Bright Stock—Vis. at 210° | | |
| 200 Vis. D | 27 (1) | 27 (1) |
| 150-160 Vis. D: | | |
| 0 to 10 p.p. | 23–23.5 | 23–23.5 |
| 10 to 25 p.p. | 22.5–23 | 22.5–23 |
| 25 to 40 p.p. | 23 (1) | 23 (1) |
| 150-160 Vis. E | 22–22.5 | 22–22.5 |
| 120 Vis. D: | | |
| 0 to 10 p.p. | 22–22.5 | 22–22.5 |
| 600 S.R. Dark Green | 9–9.5 (2) | 9–9.5 (2) |
| 600 S.R. Olive Green | 10–11 | 10–11 |
| 631 S.R. | 18.5 (1) | 18.5 (1) |
| Black Oil | 4–5.5 (2) | 4–5.5 (2) |

**SOUTH TEXAS** Neutral Oils

| Vis. | Color | | |
|---|---|---|---|
| Pale Oils: (*Vis. at 100° F.*) | | | |
| 100 | No. 1½-2½ | 6.5 | 6.5 |
| 200 | No. 2-3 | 8.75 | 8.75 |
| 300 | No. 2-3 | 9.25 | 9.25 |
| 500 | No. 2½-3½ | 10 | 10 |
| 750 | No. 3-4 | 10.25 | 10.25 |
| 1200 | No. 3-4 | 10.375 | 10.375 |
| 2000 | No. 4 | 10.5 | 10.5 |
| Red Oils: | | | |
| 100 | No. 5-6 | 6.5 (2) | 6.5 (2) |
| 200 | No. 5-6 | 8.75 | 8.75 |
| 300 | No. 5-6 | 9.25 | 9.25 |
| 500 | No. 5-6 | 10 | 10 |
| 750 | No. 5-6 | 10.25 | 10.25 |
| 1200 | No. 5-6 | 10.375 | 10.375 |
| 2000 | No. 5-6 | 10.5–11.5 | 10.5–11.5 |

**CHICAGO** (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

**Pale Oils**

| Vis. | Color | | |
|---|---|---|---|
| 60-85— | No. 2 | 9.5 (1) | 9.5 (1) |
| 86-110— | No. 2 | 10 (1) | 10 (1) |
| 150— | No. 3 | 15.5 (1) | 15.5 (1) |
| 180— | No. 3 | 16 (1) | 16 (1) |
| 200— | No. 3 | 16 (1) | 16 (1) |
| 250— | No. 3 | 17 (1) | 17 (1) |
| Red Oils: | | | |
| 180— | No. 5 | 16 (1) | 16 (1) |
| 200— | No. 5 | 16 (1) | 16 (1) |
| 250— | No. 5 | 17 (1) | 17 (1) |
| 280— | No. 5 | 18 (1) | 18 (1) |
| 300— | No. 5 | 18.5 (1) | 18.5 (1) |

**Note:** Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15c to 30 p.p., 0.25c lower.

| | | |
|---|---|---|
| Unfiltered Steam Refined: (Viscosity at 210°) | | |
| 140 | 11.5 (1) | 11.5 (1) |
| 160 | 12.5 (1) | 12.5 (1) |
| 200 | 13.5 (1) | 13.5 (1) |
| Bright stocks, 160 vis. at 210 No. 8 color: | | |
| 0 to 10 p.p. | 24 (1) | 24 (1) |
| 15 to 25 p.p. | 23.5 (1) | 23.5 (1) |
| 30 to 40 p.p. | 21.5 (1) | 21.5 (1) |
| E filtered Cyl. Stock | 15.5 (1) | 15.5 (1) |

**Note:** To obtain prices delivered in Chicago, add 0.25c per gal.

## Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

| | | |
|---|---|---|
| **FOB GROUP 3** | | |
| Grade 26-70 | 5.125 (Sales) | 5.125 (Sales) |
| **FOB BRECKENRIDGE** | | |
| Grade 26-70 | 4.75 (Sales) | 4.75 (Qtns.) |
| **CALIFORNIA** (FOB plants in Los Angeles basin) 75-85, 350-375 e.p. for | | |
| bleading | 5.25 – 5.5 | 4.75 – 5.5 |

## Naphtha and Solvent

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| (FOB Group 3) | | |
| Stoddard solvent | 6.625 | 6.625 |
| Cleaners' naphtha | 7.125 | 7.125 |
| V. M. & P. naphtha | 7.125 | 7.125 |
| Mineral spirits | 6.125 | 6.125 |
| Rubber solvent | 7.125 | 7.125 |
| Lacquer diluent | 7.375– 8.125 | 7.375– 8.125 |
| Benzol Diluent | 7.875– 8.625 | 7.875– 8.625 |
| **WESTERN PENNA.** | | |
| Untreated naphtha | 7 –7.25 (2) | 7 –7.25 (2) |
| Stoddard solvent | 7.25 – 7.5 | 7.25 – 7.5 |

**OHIO** (S. O. Ohio quotations for statewide delivery):

| | | |
|---|---|---|
| V.M.&P. naphtha, D.C. naphtha, solvent | Varnolene & Sohio 10 | 10 |
| Rubber solvent | 9 | 9 |

## Wax

White Crude Scale:

| | | |
|---|---|---|
| **WESTERN PENNA.** (Bbls. C.L., N. Y.) | | |
| 122-124 A.m.p. | 4.25 | 4.25 |
| 124-126 A.m.p. | 4.25 | 4.25 |
| **OKLAHOMA** (Bbls. or burlap bags, C.L.) | | |
| 124-6 AMP | No Price | No Price |
| 131-3 AMP | No Price | No Price |
| 128 AMP (Min.), white semi-refined, bags | No Price | 5.65 (1) |

**CHICAGO** (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

| | | |
|---|---|---|
| *Fully refined:* | | |
| 122-124 (bags only) | 5.6 | 5.9 |
| 125-127 | 6 | 5.9 |
| 127-129 | 6.25 | 6.15 |
| 130-132 | 6.55 | 6.85 |
| 132-134 | 6.8 | 7.1 |
| 135-137 | 7.55 | 7.85 |

## Petrolatums

| | | | | |
|---|---|---|---|---|
| **WESTERN PENNA.** (Bbls., carloads; tank cars, 0.5c per lb. less.) | | | | |
| Snow White | 6.125– 7.25 | 6.125– 7.25 | | |
| Lily White | 5.375– 6.125 | 5.375– 6.125 | | |
| Cream White | 4.375– 5.375 | 4.375– 5.375 | | |
| Light Amber | 3.375– 3.875 | 3.375– 3.875 | | |
| Amber | 3.125– 3.625 | 3.125– 3.625 | | |
| Red | 3 – 3.5 | 3 – 3.5 | | |

## Group 3 Freight Rates

**To Division Headquarters Points of Standard Oil Co. of Indiana**

| | Gasoline Kerosine Cents per Cwt. | Cents per gal. 6.6 lbs. | Distillate-Gas Oil-Fuel Oil Cents per Cwt. | Cents per gal. 7.4 lbs. |
|---|---|---|---|---|
| Chicago, Ill. | 36 | 2.376 | 32 | 2.368 |
| Decatur, Ill. | 32 | 2.112 | 31 | 2.294 |
| Joliet, Ill. | 36 | 2.376 | 32 | 2.368 |
| Peoria, Ill. | 33 | 2.178 | 31 | 2.294 |
| Quincy, Ill. | 31 | 2.046 | 29 | 2.146 |
| Indianapolis, Ind. | 38 | 2.508 | 39 | 2.886 |
| Evansville, Ind. | 35 | 2.310 | 37 | 2.738 |
| South Bend, Ind. | 44 | 2.904 | **42 | **3.108 |
| Detroit, Mich. | 64 | 4.224 | 51 | 3.774 |
| Grand Rapids, Mich. | 55 | 3.630 | **50 | **3.700 |
| Saginaw, Mich. | 66 | 4.356 | 53 | 3.922 |
| Green Bay, Wis. | 41 | 2.706 | 41 | 3.034 |
| Milwaukee, Wis. | 39 | 2.574 | 34.5 | 2.553 |
| LaCrosse, Wis. | 37 | 2.442 | 37 | 2.738 |
| Minneapolis-St. Paul | 37 | 2.442 | 37 | 2.738 |
| Duluth, Minn. | 41 | 2.706 | 41.5 | 3.071 |
| Mankato, Minn. | 37 | 2.442 | 37 | 2.738 |
| Des Moines, Ia. | 29 | 1.914 | 29 | 2.146 |
| Davenport, Ia. | 33 | 2.178 | 31 | 2.294 |
| Mason City, Ia. | 34 | 2.244 | 33.5 | 2.479 |
| St. Louis, Mo. | 29 | 1.914 | 26.5 | 1.961 |
| Kansas City, Mo. | 22 | 1.452 | 22.5 | 1.665 |
| St. Joseph, Mo. | 25 | 1.650 | 22.5 | 1.665 |
| Fargo, N. D. | 51 | 3.366 | 50.5 | 3.737 |
| Huron, S. D. | 43 | 2.828 | 42.5 | 3.145 |
| Wichita | | | | |
| From Ponca City | 7.5 | *0.495 | 7.5 | †0.555 |
| From Tulsa | 12.5 | *0.825 | 12.5 | †0.925 |
| From Cushing | 11 | *0.726 | 11 | †0.814 |

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

# SEABOARD PRICES EXPORT AND COASTWISE

**(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.**

***NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads***

## Atlantic Coast

**(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices Effective Jan. 5**

**MOTOR GASOLINE**

| District: | Min. 80 Oct. '39 Research (Max. 2 cc. Lead) | 72-74 Oct. (ASTM) | 68-70 Oct. (ASTM) |
|---|---|---|---|
| N. Y. Harb. | 8.5 – 9 | 8 – 8.5 | 8 (1) |
| N. Y. Harb., barges | 8.5 | 7.9 – 8.5 | 7.9 (1) |
| Albany | 8.1 – 8.8 | .... | .... |
| Philadelphia | 8 – 8.7 | 8 – 8.25 | 8 – 8.2 (1) |
| Baltimore | 7.75 – 8.5 | 7.75 – 8.25 | .... |
| Norfolk | 7.62 – 8 | 7.5 – 8.25 | 7.3 – 7.5 (1) |
| Wilmington, N. C. | 7.5 – 7.8 | 7.5 – 8 (2) | 7.3 – 7.5 (2) |
| Charleston | 7.6 – 7.8 | 7.5 (1) | 6.9 – 7.1 (1) |
| Savannah | 7.87 – 8.2 | 7.75 (1) | 7.6 – 7.8 (2) |
| Jacksonville | 7.87 – 8.2 | 7.75-7.875 (2) | 7.6 – 7.8 (1) |
| Miami | 7.87 – 8.2 (2) | 7.75 (1) | 7.6 – 7.8 (1) |
| Tampa | 7.75 – 8.2 | 7.75 (1) | 7.6 – 7.8 (1) |
| Pensacola | 7.5 – 7.7 (1) | .... | 7.1 – 7.3 (1) |
| Mobile | 7.37 – 7.7 | .... | 7.1 – 7.3 (2) |
| New Orleans | 6.75 – 7.37 | 6.25 – 7 | .... |
| Portland | 8.3 – 9.4 | 8.6 (1) | .... |
| Boston | 8.2 – 9 | 8.5 (2) | 8.5 (1) |
| Providence | 8.2 – 9.1 | 8.5 (1) | .... |

**FUEL OILS**

| | KEROSINE and/or NO. 1 FUEL | No. 2 | No. 3 | No. 5 | No. 6 |
|---|---|---|---|---|---|
| N. Y. Harb. | 5.3 – 5.5 | 5.2 | 5.2 | $1.65–1.75 (a) | $1.35 –$1.45 |
| N. Y. Harb., barges | 5.2 – 5.5 | 5.1 | 5.1 | .... | .... |
| Albany | 5.6 | 5.4 | 5.4 | $1.95 (1) | $1.55 (1) |
| Philadelphia | 5.4 – 5.8 | 5.2 – 5.25 | 5.2 – 5.25 | $1.68 | $1.35 –$1.50 |
| Baltimore | 5.4 – 5.45 | 5.2 – 5.25 | 5.2 – 5.25 | $1.68 (1) | $1.35 –$1.50 |
| Norfolk | 5.4 – 5.5 | 5.2 – 5.25 | 5.2 –5.25 (2) | .... | $1.35 (2) |
| Wilmington, N. C. | 5.25 – 5.5 | 5.2 – 5.25 | .... | .... | .... |
| Charleston | 5.4 – 5.5 | 5.2 (2) | .... | .... | $1.30 (2) |
| Savannah | 5.25 – 5.5 | .... | .... | .... | $1.30 (1) |
| Jacksonville | 5.25 – 5.5 | 4.75 (2) | 4.75 (1) | .... | $1.30 (1) |
| Miami | 5.25 5.5 (2) | .... | .... | .... | .... |
| Tampa | 5.25 – 5.5 | 4.75 (2) | .... | .... | $1.25 (1) |
| Pensacola | 4.8 – 5 (1) | .... | .... | .... | .... |
| Mobile | 4.75 – 5 | .... | .... | .... | .... |
| New Orleans | 4.25 – 4.875 | 3.875– 4 (2) | .... | $1.68 (1) | $0.85 (2) |
| Portland | 5.5 | 5.3 | 5.3 (2) | $1.95 (1) | $1.35 –$1.55 |
| Boston | 5.4 | 5.2 | 5.2 (2) | $1.65 (2) | $1.35 |
| Providence | 5.4 | 5.2 | 5.2 | $1.60 $1.65 | $1.35 |

(a) This price is for a straight-run, low pour test No. 5 fuel.

| | Bunker C Fuel Ships' bunkers (Ex Lighterage) | Diesel Oil Ships' bunkers (Ex Lighterage | Diesel Oil Shore Plants | Gas House Gas Oil 28-34 Gravity |
|---|---|---|---|---|
| N. Y. Harbor | $1.35 –$1.45 | $2.15 | 5.2 –5.3 (2) | 5.3 (2) |
| Albany | $1.55 (1) | $2.35 (1) | 5.4 (2) | 5.6 (1) |
| Philadelphia | $1.35 –$1.50 | $2.15 | .... | .... |
| Baltimore | $1.35 –$1.50 | $2.15 | 5.2 (1) | 5.2 (1) |
| Norfolk | $1.35 | $2.15 | 5.2 (1) | 5.2 (1) |
| Charleston | $1.30 | $2.15 (2) | 5.2 (1) | 5.2 (1) |
| Savannah | $1.30 (1) | $1.99 (1) | .... | .... |
| Jacksonville | $1.30 (2) | $1.99–$2.10 (2) | .... | .... |
| Tampa | $1.25 (2) | $1.99–$2.10 (2) | .... | .... |
| New Orleans | $0.85 | $1.65 (2) | 4 (1) | 4 (1) |
| Portland | $1.35 –$1.55 | $2.23–$2.25 | 5.3 (1) | 5.4 (1) |
| Boston | $1.35 | $2.15 –$2.18 | 5.2 (2) | 5.3 (2) |
| Providence | $1.35 | $2.15 –$2.18 | 5.2 (1) | 5.3 (1) |

## Wax

**(Melting points are AMP, 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)**

**Prices Effective Jan. 5**

| Crude Scale: | New Orleans Export | N. Y. Domestic | N. Y. Export |
|---|---|---|---|
| 124-6 Yellow | No Price | .... | No Price |
| 122-4 White | .... | 4.25 | No Price |
| 124-6 White | No Price | 4.25 | No Price |
| **Fully Refined:** | | | |
| 123-5 | No Price | 5.45-5.6 (2&a) | 5.6 (1) |
| 125-7 | No Price | 5.6 (2&a) | 5.6 (1) |
| 128-30 | No Price | 6 | 6 (1) |
| 130-32 | No Price | 6.25 (2) | 6.25 (1) |
| 133-5 | No Price | 6.55 | 6.55 (1) |
| 135-7 | No Price | 6.8 (1) | 6.8 (1) |
| 108-11 White Match wax (tight bbls.) | | | No Price |

(a) 0.4c discount generally given for slabs loose.

## Naphtha

**Prices Effective Jan. 5**

| | V.M.&P. Naphtha | Mineral Spirits |
|---|---|---|
| Baltimore | 10–10.5 (2) | 9 – 9.5 |
| New York Harbor | 10.5 (2) | 9.5 |
| Philadelphia district | 10.5 (2) | 9.5 |
| Boston | 11 (2) | 10 |
| Providence | 11 (1) | 10 (2) |

## Pacific Export

**(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)**

| Prices Effective | Jan. 5 | Dec. 29 |
|---|---|---|
| 375 e.p. blend, 70 oct. | 6.375– 6.5 | 6.25 – 6.5 |
| 390 e.p. blend, 68 oct. | 6.125– 6.25 | 6.125– 6.25 |
| 390 e.p. blend, 66 oct. | 5.875– 6 | 5.875– 6 |
| 400 e.p. blend, 65 oct. min. | 5.875– 6 | 5.875– 6 |
| U. S. Motor, under 65 octane | 5.5 – 5.625 | 5.5 – 5.625 |
| 38-40 grav. w.w. kero., 150 fire point | 4.5 – 5 | 4.5 – 5 |
| 41-43 grav., w.w. kero. | 4.75 – 5 | 4.75 – 5 |
| 44-grav., w.w. kero. | 5 – 5.5 | 5 – 5.5 |
| Diesel fuel, 24 & above | $1.25 –$1.30 | $1.25 –$1.30 |
| Diesel fuel, under 24 | $1.15 –$1.25 | $1.15 –$1.25 |
| 30-34 grav. diesel (gas oil) Pac. Spec. 200 | $1.25 –$1.35 | $1.25 –$1.35 |
| Grade C fuel, Pac. Spec. 400 | $0.85 –$0.90 | $0.85 –$0.90 |
| *In Ship's Bunkers, or deep tank lots:* | | |
| Diesel fuel, Pac. Spec. 200 | $1.35 –$1.45 | $1.35 –$1.45 |
| Grade C fuel, Pac. Spec. 400 | $0.85 –$0.90 | $0.85 –$0.90 |
| *Cased Goods:* (Per case) | | |
| 375-400 e.p. blend, 65 oct. & above | $1.50 –$1.60 | $1.50 –$1.60 |
| 400 e.p. blend, under 65 oct. | $1.40 –$1.50 | $1.40 –$1.50 |
| U. S. Motor | $1.35 –$1.45 | $1.35 –$1.45 |
| 40-43 grav. w.w. kero., 150 fire point | $1.30 –$1.40 | $1.30 –$1.40 |
| Kero., p.w. | $1.25 –$1.35 | $1.25 –$1.35 |

## Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

| | |
|---|---|
| Hvy. Crude & Fuel (10 to 19.9 gravity) | No Rate Rep. |
| Light Crude, (30 grav. or Lighter) | No Rate Rep. |
| Gasoline | 40 |
| Kerosine | No Rate Rep. |
| No. 2 Fuel | No Rate Rep. |

## Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

**Prices Effective Jan. 5**

### Domestic

**Motor Gasoline**

| | |
|---|---|
| Min. 80 oct. '39 Research, max. 2cc lead | 6.5 |
| **60-62, Gravity, Max. 400 e.p.** | |
| 72-74 oct. leaded (ASTM) | 6.125– 6.25 |
| 70 oct. unleaded " | 6.25 – 6.5 |
| 68 oct. " " | 6.25 |
| 65 oct. " " | 5.875 |
| 60 oct. " " | 5.625 |
| 41-43 w.w. kerosine | 4 – 4.5 |
| No. 2 fuel | 4 – 4.125 |
| **Gas Oil**—Less than ½ of 1% sulfur. | |
| Below 43 diesel index | 3.75 |
| 43-47 " " | 4.125 |
| 48-52 " " | 4.125– 4.375 |
| 53-57 " " | 4.25 |
| 58 & above diesel index | 4.375 |
| Diesel Oil, ship's bunkers (ex-lighterage) | $1.65 –$1.80 |
| Bunker C, " " " | $0.85 –$0.95 |
| Bunker C, cargoes | $0.85 –$0.96 |

### Export

**Motor Gasoline**

| | |
|---|---|
| **60-62 Gravity, Max. 400 e.p.** | |
| 72-74 oct. leaded (ASTM) | 6.125– 6.25 |
| 70 oct. unleaded " | 6.25 – 6.5 |
| 68 oct. " " | 6.25 |
| 65 oct. " " | 5.875 |
| 60 oct. " " | 5.625 |
| 41-43 w.w. kerosine | 4 – 4.5 |
| **Gas Oil**—Less than ½ of 1% sulfur. | |
| Below 43 diesel index | 3.75 |
| 43-47 " " | 4.125 |
| 48-52 " " | 4.125– 4.375 |
| 53-57 " " | 4.25 |
| 58 & above diesel index | 4.375 |

**MID-CONTINENT LUBES**

**(At Gulf; in packages, FAS.; in bulk, FOB terminals)**

**Jan. 5**

| | Steel Drums | Bulk |
|---|---|---|
| 200 vis. D 210 brt. stock | 34-35 (2) | 28.8 (2) |
| 150 vis. D 210 brt. stock 0-10 p.p. | 30-31 (2) | 24.8 (2) |
| 10-25 p.p. | 29.5 (1) | 24.3 (1) |
| 100 vis. D 210 brt. stock 0-10 p.p. | 29.5 (1) | 24.3 (1) |
| 10-25 p.p. | 29 (1) | 23.8 (1) |
| 200 vis. No. 3 col. neutral: 0-10 p.p. | 22 (1) | 16.8 (1) |

**SOUTH TEXAS LUBES**

**(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)**

| *Unfiltered Pale Oils:* Vis. | Color | Jan. 5 | Dec. 29 |
|---|---|---|---|
| 100 | No. 3 | 6.25–6.5 (2) | 6.25–6.5 (2) |
| 200 | No. 3 | 7.75–8.75 (2) | 7.75–8.75 (2) |
| 300 | No. 3 | 8.25–9.25 (2) | 8.25–9.25 (2) |
| 500 | No. 3½ | 9.25–10.25 (2) | 9.25–10.25 (2) |
| 750 | No. 4 | 9.75–11 (2) | 9.75–11 (2) |
| 1200 | No. 4 | 10.25–11.5 (2) | 10.25–11.5 (2) |
| 2000 | No. 4 | 12.5 (1) | 12.5 (1) |

*Red Oils:*

| Vis. | Color | | |
|---|---|---|---|
| 100 | No. 5-6 | 6.5 (1) | 6.5 (1) |
| 200 | No. 5-6 | 7.75–8.75 (2) | 7.75–8.75 (2) |
| 300 | No. 5-6 | 8.25–9.25 (2) | 8.25–9.25 (2) |
| 500 | No. 5-6 | 9.25–10.25 (2) | 9.25–10.25 (2) |
| 750 | No. 5-6 | 9.75–11 (2) | 9.75–11 (2) |
| 1200 | No. 5-6 | 10.25–11.5 (2) | 10.25–11.5 (2) |
| 2000 | No. 5-6 | 11–12.5 (2) | 11–12.5 (2) |

# TANK WAGON PRICES

*Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline* **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Jan. 5, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

## S. O. New Jersey

**Esso (*Regular Grade*)**

| | Consumer Tank Wagon | Dealer T.W. | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|
| *Atlantic City, N. J | 9 | 9.5 | 4.5 | 7.9 |
| *Newark, N. J | 9 | 9.5 | 4.5 | 7.9 |
| Annapolis, Md | 9.35 | 9.85 | 5.5 | 9.7 |
| Baltimore, Md | 8.75 | 9.25 | 5.5 | 8.7 |
| Cumberland, Md | 10.15 | 10.65 | 5.5 | 10.2 |
| Washington, D. C | 9 | 9.5 | 4.5 | 9.2 |
| Danville, Va | 10.45 | 10.95 | 6.5 | 10.45 |
| Norfolk, Va | 9.25 | 9.75 | 6.5 | 10.2 |
| Petersburg, Va | 9.55 | 10.05 | 6.5 | 11.2 |
| Richmond, Va | 9.55 | 10.05 | 6.5 | 11.2 |
| Roanoke, Va | 10.75 | 11.25 | 6.5 | 10.7 |
| Charleston, W. Va | 11.05 | 11.55 | 6.5 | 11.5 |
| Parkersburg, W. Va | 10.35 | 10.85 | 6.5 | 11.2 |
| Wheeling, W. Va | 10.35 | 10.85 | 6.5 | 11.8 |
| Charlotte, N. C | 10.9 | 11.4 | 7.5 | 9.5 |
| Hickory, N. C | 11.45 | 11.95 | 7.5 | 10.5 |
| Mt. Airy, N. C | 11.3 | 11.8 | 7.5 | 9.7 |
| Raleigh, N. C | 10.65 | 11.15 | 7.5 | 10.5 |
| Salisbury, N. C | 10.95 | 11.45 | 7.5 | 10.9 |
| Charleston, S. C | 9.75 | 10.25 | 7.5 | .... |
| Columbia, S. C | 10.6 | 11.1 | 7.5 | .... |
| Spartanburg, S. C | 11.3 | 11.8 | 7.5 | .... |

| | Mineral Spirits T.W. | V.M.&P. T.W. |
|---|---|---|
| Newark, N. J | 12.5 | 14 |
| Baltimore, Md | 15 | .. |
| Washington, D. C | 15 | .. |

| Fuel Oils—T.W. | No. 1 | No. 2 | No. 3 |
|---|---|---|---|
| Atlantic City, N. J | 7.9 | 7.2 | 7.2 |
| Newark | 7.9 | 7.2 | 7.2 |
| Annapolis, Md | .. | 7.45 | .... |
| Baltimore | 7.7 | 7.2 | 7.2 |
| Washington, D. C | 8.2 | 7.6 | 7.6 |
| Norfolk, Va | 7.9 | 7.7 | 7 |
| Petersburg | 8.2 | 7.2 | .... |
| Richmond | 8.2 | 7.2 | 7.2 |
| Charlotte, N. C | 8.5 | 8.6 | .... |
| Hickory | .. | 8.2 | .... |
| Raleigh | 9.5 | 8.3 | .... |
| Charleston, S. C | .. | 7.2 | .... |
| Columbia | .. | 8.2 | .... |
| Spartanburg | .. | 9 | .... |

*Effective May 20, '41, minimum retail resale price of 13c posted thru New Jersey.

Discounts:

*Esso gasoline*—to undivided dealers, 0.5c off dealer t.w.

*Kerosine*—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

*Naphthas*—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

## Socony-Vacuum Oil Co., Inc.

**Socony Mobilgas (*Regular Grade*)**

| | Com. Cons. T.W. | Undiv. Dlr. T.W. | Gasoline Taxes |
|---|---|---|---|
| New York City: | | | |
| Manhattan & Bronx | 8.9 | 9.4 | *5.5 |
| Kings & Queens | 8.9 | 9.4 | *5.5 |
| Richmond | 8.5 | 9 | *5.5 |
| Albany, N. Y | 8.7 | 9.2 | 5.5 |
| Binghamton, N. Y | 9.8 | 10.3 | 5.5 |
| Buffalo, N. Y | 9 | 9.5 | 5.5 |
| Jamestown, N. Y | 9.2 | 9.7 | 5.5 |
| Mt. Vernon, N. Y | 8.9 | 9.4 | 5.5 |
| Plattsburg, N. Y | 9.8 | 10.3 | 5.5 |
| Rochester, N. Y | 9.6 | 10.1 | 5.5 |
| Syracuse, N. Y | 9.3 | 9.8 | 5.5 |
| Bridgeport, Conn | 8.8 | 9.3 | 4.5 |
| Danbury, Conn | 9.3 | 9.8 | 4.5 |
| Hartford, Conn | 9.4 | 9.9 | 4.5 |
| New Haven, Conn | 8.8 | 9.3 | 4.5 |
| Bangor, Me | 9.5 | 8.7 | 5.5 |
| Portland, Me | 9.1 | 9.6 | 5.5 |
| Boston, Mass | 8.7 | 9.2 | 4.5 |
| Concord, N. H | 10.2 | 10.7 | 5.5 |
| Lancaster, N. H | 10.8 | 11.3 | 5.5 |
| Manchester, N. H | 10.1 | 10.6 | 5.5 |
| Providence, R. I | 8.8 | 9.3 | 4.5 |
| Burlington, Vt | 9.7 | 10.2 | 5.5 |
| Rutland, Vt | 9.8 | 10.3 | 5.5 |

| | Mineral Spirits T.W. | V.M.&P. T.W. |
|---|---|---|
| Buffalo, N. Y | 11.9 | 13.1 |
| New York City | 10.5 | 11.5 |
| Rochester, N. Y | 12.7 | 13.9 |
| Syracuse, N. Y | 13.5 | .... |
| Boston, Mass | 11.5 | 12.5 |
| Bridgeport, Conn | †15.8 | †16.8 |
| Hartford, Conn | †15.8 | †16.8 |
| Providence, R. I | 12.5 | 13.5 |

| | Kerosine Yard | Kerosine TW | Mobilfuel Diesel TC | Mobilfuel Diesel TW | Mobilheat Fuel Yard | Mobilheat Fuel TW |
|---|---|---|---|---|---|---|
| New York: | | | | | | |
| Manhat'n & Bronx | 5.6 | 8 | .... | 7.5 | 5.5 | 7.2 |
| Kings & Queens | 5.6 | 8 | .... | 7.5 | 5.5 | 7.2 |
| Richmond | 5.5 | 8 | .... | .... | 5.4 | 7 |
| Albany | 5.8 | 7.8 | 5.6 | 7.6 | 5.6 | 7.3 |
| Binghamton | 7.1 | 9.1 | .... | 8.9 | 6.9 | 8.4 |
| Buffalo | 6.8 | 8.8 | 6.7 | 8.7 | 6.7 | 8.2 |
| Jamestown | 6.9 | 8.9 | .... | 8.8 | 6.8 | 8.2 |
| Mt. Vernon | 5.7 | 8.2 | .... | 7.6 | 5.6 | 7.2 |
| Plattsburg | 6.3 | 8.3 | .... | 8.1 | 6.1 | 7.6 |
| Rochester | 6.9 | 8.9 | 6.4 | 8.4 | 6.4 | 7.9 |
| Syracuse | 6.7 | 8.7 | 6.3 | 8.3 | 6.3 | 7.8 |
| Conn.: | | | | | | |
| Bridgeport | 5.8 | .... | .... | .... | 5.7 | 7 |
| Danbury | 6.3 | .... | .... | .... | 6 | 7 |
| Hartford | 5.8 | .... | .... | 7.7 | 5.7 | 7.2 |
| New Haven | 5.6 | .... | .... | 7.5 | 5.5 | 7.1 |
| Maine: | | | | | | |
| Bangor | 6.1 | 8.1 | 5.9 | 7.9 | 5.9 | 7.4 |
| Portland | 5.7 | 8.1 | 5.5 | 7.5 | 5.5 | 7.2 |
| Mass.: | | | | | | |
| Boston | 5.8 | 8 | 5.6 | 7.6 | 5.6 | 7.2 |
| N. H.: | | | | | | |
| Concord | 6.6 | 8.6 | .... | .... | 6.7 | 8.2 |
| Lancaster | 7.1 | 9.7 | .... | .... | 7.1 | 9.2 |
| Manchester | 6.7 | 9 | .... | .... | 6.4 | 7.9 |
| R. I.: | | | | | | |
| Providence | 5.8 | 7.8 | 5.6 | 7.6 | 5.6 | 7.1 |
| Vermont: | | | | | | |
| Burlington | 6.3 | .... | 6.1 | 8.1 | 6.1 | 7.6 |
| Rutland | 6.5 | .... | .... | 8.2 | 6.2 | 7.7 |

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

## Atlantic Refining

**Atlantic White Flash Gasoline (*Regular Grade*)**

| | Commercial T.W. | Dealer T.W. | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|
| Philadelphia, Pa | 9 | 9.5 | 5.5 | 10.15 |
| Pittsburgh | 9.5 | 10 | 5.5 | 10.5 |
| Allentown | 9.5 | 10 | 5.5 | 10.5 |
| Erie | 9.5 | 10 | 5.5 | 10.5 |
| Scranton | 9.5 | 10 | 5.5 | 10.5 |
| Altoona | 9.5 | 10 | 5.5 | 10.5 |
| Emporium | 9.5 | 10 | 5.5 | 10.5 |
| Indiana | 9.5 | 10 | 5.5 | 10.5 |
| Uniontown | 9.5 | 10 | 5.5 | 10.5 |
| Harrisburg | 9.5 | 10 | 5.5 | 10.5 |
| Williamsport | 9.5 | 10 | 5.5 | 10.5 |
| Dover, Del | .... | 10 | 5.5 | 10.5 |
| Wilmington, Del | .... | 9.5 | 5.5 | 10 |
| Boston, Mass | .... | 9.7 | 4.5 | 8 |
| Springfield, Mass | .... | 10.6 | 4.5 | 8.9 |
| Worcester, Mass | .... | 10.3 | 4.5 | 8.5 |
| Fall River, Mass | .... | 9.8 | 4.5 | 9 |
| Hartford, Conn | .... | 10.4 | 4.5 | 7.9 |
| New Haven, Conn | .... | 9.8 | 4.5 | 9 |
| Providence, R. I | .... | 9.8 | 4.5 | 8.6 |
| Atlantic City, N. J | .... | 9.5 | 4.5 | 7.9 |
| Camden, N. J | .... | 9.5 | 4.5 | 7.9 |
| Trenton, N. J | .... | 9.5 | 4.5 | 7.9 |
| Annapolis, Md | .... | 9.85 | 5.5 | 8.7 |
| Baltimore, Md | .... | 9.25 | 5.5 | 7.7 |
| Hagerstown, Md | .... | 10.35 | 5.5 | 8.2 |
| Richmond, Va | .... | 10.05 | 6.5 | 10.2 |
| Wilmington, N. C | .... | 10.35 | 7.5 | 9.8 |
| Brunswick, Ga | .... | 10 | 7.5 | *9 |
| Jacksonville, Fla | .... | 10 | 8.5 | 10 |

| | Mineral Spirits T.W.† | V.M.&P. T.W.† |
|---|---|---|
| Philadelphia, Pa | 10.5 | 12 |
| Lancaster, Pa | 11.5 | 13 |
| Pittsburgh, Pa | 12.5 | 12.5 |

| | Fuel Oils—T.W. 1 | 2 | 3 | 5 | 6 |
|---|---|---|---|---|---|
| Phila., Pa | 8 | 7.2 | 7.2 | 4.75 | 3.75 |
| Allentown, Pa | 8.5 | 7.5 | 7.5 | .... | .... |
| Wilmington, Del | 8.00 | 7.2 | 7.2 | .... | .... |
| Springfield, Mass | 8.9 | 7.6 | 7.6 | .... | .... |
| Worcester, Mass | 8.5 | 7.5 | 7.5 | .... | .... |
| Hartford, Conn | 7.9 | 7.2 | 7.2 | .... | .... |

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

## S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

| | Consumer T.W. | **Reseller | ‡S.S. | Gasoline Taxes | †Kerosine T.W. |
|---|---|---|---|---|---|
| Ohio, Statewide | 12 | 10 | 13.5 | 5.5 | 9 |
| Akron | 12 | 9.5 | 12 | 5.5 | 9 |
| Cincinnati | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Cleveland | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Columbus | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Dayton | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Marietta | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Portsmouth | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Toledo | 12 | 9.5 | 12.5 | 5.5 | 9 |
| Youngstown | 12 | 9.5 | 12.5 | 5.5 | 9 |

**Aviation Gasoline—Statewide**

| | Consumer T.W. | Gasoline Taxes |
|---|---|---|
| Sohio Aviation | 14.5 | 5.5 |
| Esso Ethyl Aviation 74 Oct. | 15.5 | 5.5 |
| Esso Ethyl Aviation 80 Oct. | 16.5 | 5.5 |
| Esso Ethyl Aviation 91 Oct. | 17.5 | 5.5 |
| Esso Ethyl Aviation 100 Oct. | 24.5 | 5.5 |

| | †Naphtha—T.W. Statewide | Lucas County |
|---|---|---|
| S. R. Solvent | 13.5 | 13.5 |
| D. C. Naphtha | 14.5 | 14.25 |
| V.M.&P. Naphtha | 14.5 | 14.25 |
| Varnolene | 14.5 | 14.25 |
| Sohio Solvent | 14.5 | 14.25 |

| Fuel Oils—T.W. | No. 1 | No. 2 | No. 3 | No. 4 |
|---|---|---|---|---|
| Ohio, Statewide | 8 | 8 | 7.5 | .... |
| Cleveland | 10 | 10 | 9.5 | 7.25 |

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

## S. O. Kentucky

**Crown Gasoline (*Regular*)**
**Standard (*Third Grade*)**

| | †Net Dealer Crown | Standard | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|
| Covington, Ky | 10 | 9 | 6.5 | 9 |
| Lexington, Ky | 11 | 10 | 6.5 | 9 |
| Louisville, Ky | 10.5 | 9.5 | 6.5 | 8.5 |
| Paducah, Ky | 9 | 8.5 | 6.5 | 8.5 |
| Jackson, Miss | 10.5 | 9.5 | 7.5 | *8.5 |
| Vicksburg, Miss | 10 | 9 | 7.5 | *8 |
| Birmingham, Ala | 10.5 | 9.5 | *8.5 | 9 |
| Mobile, Ala | 9.5 | 7.5 | *9.5 | 8.5 |
| Montgomery, Ala | 10.5 | 9.5 | *9.5 | *9 |
| Atlanta, Ga | 11 | .... | 7.5 | *9 |
| Augusta, Ga | 11 | .... | 7.5 | *8.5 |
| Macon, Ga | 11 | .... | 7.5 | *9 |
| Savannah, Ga | 10 | .... | 7.5 | *8 |
| Jacksonville, Fla | 10 | .... | 8.5 | 8 |
| Miami, Fla | 10 | .... | 8.5 | 8 |
| Pensacola, Fla | 9.5 | 8.5 | *9.5 | 8 |
| Tampa, Fla | 10 | .... | 8.5 | 8 |

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax. Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

## S. O. Indiana

**Red Crown (*Regular Grade*)**
**Blue Crown (*Third Grade*)**
**Red Dealer Prices**

| | Crown Cons. T.W. | Red Crown | Blue Crown | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|---|
| Chicago, Ill | 11.6 | 9.6 | 8.5 | 4.5 | 10.3 |
| Decatur, Ill | 10.9 | 7.9 | 7.7 | 4.5 | 9.5 |
| Joliet, Ill | 11.9 | 9.6 | 8.5 | 4.5 | 10.3 |

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less. 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

# TANK WAGON PRICES

*Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline* **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Jan. 5, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

## S. O. Indiana (Cont'd)

**Red Crown (*Regular Grade*)**
**Blue Crown (*Third Grade*)**

| | Red Crown Cons. T.W. | Red Crown Dealer Prices Red Crown T.W. | Blue Crown T.W. | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|---|
| Peoria, Ill | 11.7 | 9.7 | 9.7 | 4.5 | 10.1 |
| Quincy, Ill | 11.6 | 10.1 | 9.6 | 4.5 | 10 |
| Indianapolis, Ind | 11.6 | 9.7 | 9.6 | 5.5 | *9.8 |
| Evansville, Ind | 11.4 | 9.9 | 8.4 | 5.5 | *9.6 |
| South Bend, Ind | 12 | 10.5 | 10 | 5.5 | *10.2 |
| Detroit, Mich | 11.4 | 9.9 | 9.4 | 4.5 | 9.6 |
| Grand Rapids, Mich | 11.4 | 9.3 | 9 | 4.5 | 9.6 |
| Saginaw, Mich | 11.4 | 9.9 | 9.4 | 4.5 | 9.6 |
| Green Bay, Wis | 12.2 | 10.7 | 9.7 | 5.5 | 10.6 |
| Milwaukee, Wis | 12.1 | 10.6 | 10.1 | 5.5 | 10.5 |
| La Crosse, Wis | 11.9 | 10.4 | 9.9 | 5.5 | 10.3 |
| Minneapolis-St. Paul | 11.9 | 9.9 | 9.5 | 5.5 | 10.3 |
| Duluth, Minn | 12.2 | 10.7 | 10.2 | 5.5 | 10.6 |
| Mankato, Minn | 11.9 | 10.4 | 9.5 | 5.5 | 10.3 |
| Des Moines, Ia | 9.9 | 7.4 | 6.9 | 4.5 | *9.8 |
| Davenport, Ia | 11.7 | 10.2 | 9.7 | 4.5 | *10.1 |
| Mason City, Ia | 11.7 | 10.2 | 9.7 | 4.5 | *10.1 |
| St. Louis, Mo | 8.9 | 7.4 | 7.2 | *4.5 | 9.8 |
| Kansas City, Mo | 10.4 | 8.9 | 7.9 | *4.5 | 9.4 |
| St. Joseph, Mo | 11.2 | 9 | 8 | *4.5 | 9.6 |
| Fargo, N. D | 12.9 | 11.4 | 10.5 | 5.5 | 11.3 |
| Huron, S. D | 12.3 | 10.8 | 10.3 | 5.5 | 10.7 |
| Wichita, Kans | 10.3 | 8.2 | 6.5 | 4.5 | 8 |

**Stanavo Aviation 73 Octane**

| | | |
|---|---|---|
| Chicago, Ill | 15.7 | 4.5 |
| Milwaukee, Wis | 15.9 | 5.5 |
| Minneapolis, Minn | 15.7 | 5.5 |
| St. Louis, Mo | 15.2 | *4.5 |
| Kansas City, Mo | 14.8 | *4.5 |
| Fargo, N. D | 16.7 | 5.5 |
| Huron, S. D | 16.1 | 5.5 |

| | Oleum Spirits | V.M.&P. Naphtha | Stani-sol | *Taxes |
|---|---|---|---|---|
| | (Prices are base prices before discounts) | | | |
| Chicago | 13.5 | 13.8 | 12.8 | 4.5 |
| Detroit | 15.8 | 15 | 16.3 | 4.5 |
| K. C., Mo | 13.3 | 14.3 | 13.8 | 1.5 |
| St. Louis, Mo | 13.7 | 14.7 | 13.2 | 1.5 |
| Milwaukee | 14.4 | 15.4 | 14.9 | 5.5 |
| Minnep'ls | 14.2 | 15.2 | 13.5 | 5.5 |

| | Fuel Oils T. W. Chicago Standard | Heater Oil |
|---|---|---|
| 1-99 gals | | 9 |
| 100-149 gals | | 8 |
| 150 gals. & over | | 7.5 |

| | Stanolex Fuel Oil No. 1 | Stanolex Furnace Oil |
|---|---|---|
| 1-99 gals | 8.5 | 8.5 |
| 100-149 gals | 7.5 | 7.5 |
| 150-399 gals | 7.5 | 7.5 |
| 400 gals. & over | 7 | 7 |

| | Stanolex Fuel Oil A | Stanolex Fuel Oil B |
|---|---|---|
| 1-99 gals | 8 | 8 |
| 100-399 gals | 7 | 7 |
| 400-749 gals | 6 | 6 |
| 750 gals. & over | 5.25 | 5.25 |

| | Stanolex Bunker C Fuel Oil |
|---|---|
| 1-399 gals | 6.5 |
| 400-999 gals | 5.5 |
| 1000 gals. & over | 4.5 |

| Other Points: Indianapolis | Stanolex No. 1 | Stanolex Furnace Oil |
|---|---|---|
| 1-99 gals | ... | *8.7 |
| 100 gals. & over | ... | *7.7 |
| Detroit | | |
| 1-99 gals | ... | 7.8 |
| 100 gals & over | ... | 6.8 |
| Milwaukee | | |
| 1-99 gals | ... | 8.7 |
| 100 gals. & over | ... | 7.7 |
| Minneapolis | | |
| 1-99 gals | ... | 8.5 |
| 100 gals. & over | ... | 7.5 |
| St. Louis | | |
| 1-99 gals | 8.3 | 7.8 |
| 100 gals. & over | 7.3 | 6.8 |
| Kansas City | | |
| 1-99 gals | ... | 7.6 |
| 100 gals. & over | ... | 6.6 |

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

## S. O. Nebraska

**(*Regular Grade*)**

| | T.W. Dealer | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|
| Omaha | 11.4 8.9 | 6.5 | 9.8 |
| McCook | 12 9.4 | 6.5 | 9.5 |
| Norfolk | 11.9 10.4 | 6.5 | 10.3 |
| North Platte | 11 9.9 | 6.5 | 10 |
| Scottsbluff | 12.4 9.5 | 6.5 | 9.5 |

## S. O. Louisiana

**Esso Gasoline (*Regular Grade*)**

| | Consumer Tank Wagon | Dealer T.w. | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|
| New Orleans, La | 8.75 | 9.25 | 8.5 | *9.5 |
| Baton Rouge, La | 8.75 | 9.25 | 8.5 | *9.5 |
| Alexandria, La | 8.75 | 9.25 | 8.5 | *9.5 |
| Lafayette, La | 9 | 9.5 | 8.5 | *9 |
| Lake Charles, La | 9 | 9.5 | 8.5 | *11 |
| Shreveport, La | 8.5 | 9 | 8.5 | *8 |
| Knoxville, Tenn | 11.5 | 12 | 8.5 | 12.5 |
| Memphis, Tenn | 8.75 | 9.25 | 8.5 | 10.5 |
| Chattanooga, Tenn | 10.5 | 11 | 8.5 | 11 |
| Nashville, Tenn | 10.5 | 11 | 8.5 | 10 |
| Bristol, Tenn | 9.75 | 10.25 | 8.5 | 12 |
| Little Rock, Ark | 9.5 | 10 | 8 | 10 |

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

## Humble Oil & Refining Co.

**Humble Motor Fuel (*Regular Grade*)**
**Thriftane (*Third Grade*)**

| | Humble *Tank Wagon | Humble Re-tail | Thriftane *Tank Wagon | Thriftane Re-tail | Gasoline Taxes |
|---|---|---|---|---|---|
| Dallas, Tex | 8.5† | 11.5 | 7.5† | 9.5 | 5.5 |
| Ft. Worth, Tex | 8.5†† | 10.5 | 7.5‡ | 9 | 5.5 |
| Houston, Tex | 8.5 | 12.5 | 7.5 | 10.5 | 5.5 |
| San Antonio, Tex | 8.5 | 12.5 | 7.5 | 10.5 | 5.5 |

| | Kerosine *Tank Wagon | Kerosine Retail |
|---|---|---|
| Dallas, Tex | 7 | 11 |
| Ft. Worth, Tex | 7 | 11 |
| Houston, Tex | 8 | 11 |
| San Antonio, Tex | 7 | 10 |

| | Tank Car |
|---|---|
| **74 Oct. Aviation Gasoline, Clear** | |
| FOB Baytown, Tex | 8.5 |

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

## The Texas Co.

| | Gasoline—Dealer Fire-Chief (*Regular*) | T.W. Indian (*3rd Grade*) | Gasoline Taxes |
|---|---|---|---|
| Dallas, Tex | 8.5* | 7.5* | 5.5 |
| Ft. Worth, Tex | 8.5* | 7.5* | 5.5 |
| Wichita Falls, Tex | 8.5 | 7.5 | 5.5 |
| Amarillo, Tex | 8.5 | 7.5 | 5.5 |
| Tyler, Tex | 8.5* | 7.5* | 5.5 |
| El Paso, Tex | 11 | 10.5 | 5.5 |
| San Angelo, Tex | 8.5 | 7.5 | 5.5 |
| Waco, Tex | 8.5* | 7* | 5.5 |
| Austin, Tex | 8.5 | 7.5 | 5.5 |
| Houston, Tex | 8.5 | 7.5 | 5.5 |
| San Antonio, Tex | 8.5 | 7.5 | 5.5 |
| Port Arthur, Tex | 8.5 | 7.5 | 5.5 |

*Less 1c temporary allowance to all dealers.

## Continental Oil Co.

(N.B. Prices are Continental's "normal" prices. Prices do not reflect temporary reductions made to meet local competition)

| | Conoco Bronz-z-z (*Regular*) †Tank Wagon | Demand (*3rd Grade*) | Gasoline Taxes | Kerosine T.W. |
|---|---|---|---|---|
| Denver, Col | 11 | 10 | 5.5 | 11 |
| Grand Junction, Col | 12 | 11 | 5.5 | 12.5 |
| Pueblo, Col | 10.5 | 9.5 | 5.5 | 9.5 |
| Casper, Wyo | 11.5 | 10.5 | 5.5 | 12 |
| Cheyenne, Wyo | 11 | 10 | 5.5 | 11.5 |
| Billings, Mont | 12.5 | 11.5 | 6.5 | 12.5 |
| Butte, Mont | 13.5 | 12.5 | 6.5 | 13.5 |
| Great Falls, Mont | 12.5 | 11.5 | 6.5 | 12.5 |
| Helena, Mont | 13 | 12 | 6.5 | 13 |
| Salt Lake City, Utah | 13.5 | 12.5 | 5.5 | 14.5 |
| Boise, Ida | 14.1 | 13.1 | 6.5 | 16.5 |
| Twin Falls, Ida | 15.6 | 14.6 | 6.5 | 17 |
| Albuquerque, N. M | 10.5 | 9.5 | *7 | 10 |
| Roswell, N. M | 10 | 9 | *7 | 8.5 |
| Santa Fe, N. M | 10.5 | 9.5 | *7.5 | 10 |
| Ft. Smith, Ark | 9.5 | 9.25 | *7 | 6.5 |
| Texarkana, Ark | 9 | 8 | *5.5 | 6 |
| Muskogee, Okla | 9.5 | 8.5 | 7 | 8 |
| Oklahoma City, Okla | 9.5 | 8.5 | 7 | 8 |
| Tulsa, Okla | 9.5 | 8.5 | 7 | 8 |

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.
Discounts: To dealers only—Cheyenne 1.5c on Bronz-z-z & Demand.

## S. O. California

**Standard Gasoline (*Regular Grade*)**
**Flight Gasoline (*Third Grade*)**

| | Standard Posted Net Tank Truck | Standard Posted Re-tail | Flight Posted Net Tank Truck | Flight Posted Re-tail | Gasoline Taxes |
|---|---|---|---|---|---|
| San Francisco, Cal | 10 | 14 | 9 | 12 | 4.5 |
| Los Angeles, Cal | 9.5 | 13.5 | 8.5 | 11.5 | 4.5 |
| Fresno, Cal | 11 | 15 | 10 | 13 | 4.5 |
| Phoenix, Ariz | 12 | 16 | 10 | 13 | 6.5 |
| Reno, Nev | 12 | 16 | 11 | 14 | 5.5 |
| Portland, Ore | 10.5 | 14.5 | 9.5 | 12.5 | 6.5 |
| Seattle, Wash | 10.5 | 14.5 | 9.5 | 12.5 | 6.5 |
| Spokane, Wash | 12.5 | 16.5 | 11.5 | 14.5 | 6.5 |
| Tacoma, Wash | 10.5 | 14.5 | 9.5 | 12.5 | 6.5 |

**Std. Aviation 73**

| | Posted N Tank Truck | Gasoline Taxes | Kerosine Tank Truck |
|---|---|---|---|
| San Francisco, Cal | 12.5 | 4.5 | 11.5 |
| Los Angeles, Cal | 12 | 4.5 | 10 |
| Fresno, Cal | 13.5 | 4.5 | 12.5 |
| Phoenix, Ariz | 14.5 | 6.5 | 12.5 |
| Reno, Nev | 14.5 | 5.5 | 13.5 |
| Portland, Ore | 13 | 6.5 | 13.5 |
| Seattle, Wash | 13 | 6.5 | 13.5 |
| Spokane, Wash | 16 | 6.5 | 16.5 |
| Tacoma, Wash | 13 | 6.5 | 13.5 |

Discounts:
Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.
Commercial: Retail deliveries, and /or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries, of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

## Canada

**PRICES ON IMPERIAL OIL, LTD.**
Per Imperial Gallon, which is 1.2 U. S. Gallons
**3-Star Imperial Gasoline (*Regular Grade*)**

| | †Gasoline T.W. | *Gasoline Taxes | †Kerosine T.W. |
|---|---|---|---|
| Hamilton, Ont | 17.5 | 11 | 18 |
| Toronto, Ont | 17.5 | 11 | 18 |
| Brandon, Man | 21 | 10 | 23 |
| Winnipeg, Man | 20.5 | 10 | 22.5 |
| Regina, Sask | 18 | 10 | 20 |
| Saskatoon, Sask | 20.8 | 10 | 22.8 |
| Edmonton, Alta | 18.9 | 10 | 20.9 |
| Calgary, Alta | 16 | 10 | 18 |
| Vancouver, B. C | 15 | 10 | 24 |
| Montreal, Que | 17 | 11 | 17.5 |
| St. John, N. B | 16.5 | 13 | 19 |
| Halifax, N. S | 16.5 | 13 | 19 |

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

### Tank Wagon Price Changes

(These changes have been made in price tables)

*Atlantic Refining—White Flash Gasoline:*
Commercial tank wagon prices substituted for commercial tank car prices, effective Jan. 1, 1942.

*S. O. Indiana—Red Crown Gasoline:*
Decatur dealer cut 1c Nov. 18. Quincy t. w. up 2.7c, dealer up 2.2c, Nov. 28. Minneapolis-St. Paul dealer cut 0.5c Dec. 15. Des Moines t. w. cut 1.5c Oct. 17. St. Joseph dealer cut 0.7c Dec. 22.

*S. O. Indiana—Blue Crown Gasoline:*
Decatur dealer cut 0.3c Nov. 18. Quincy dealer up 1.7c Nov. 28. Green Bay dealer cut 0.5c Oct. 31. St. Joseph dealer cut 0.7c Dec. 22.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

# CRUDE OIL PRICES

*Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.*

## EASTERN & CENTRAL STATES FIELDS

### PENNSYLVANIA GRADE

**Posted by Jos. Seep Purch. Agency** (Aug. 23, '41)
Bradford-Allegany ..... $2.75
Southwest Penna ..... $2.40
Eureka (West Va.) ..... $2.34
Corning, O. (May 27, '41) ..... $1.31

**Posted by The Pennzoil Co.** (Aug. 23, '41)
National Transit ..... $2.68*

**Posted by Valvoline Pipe Lines** (Aug. 23, '41)
Bradford (Elk & McKean Counties, Pa.) ..... $2.75
Warren, Forest, Venango, Clarion & Butler Counties, Pa. ..... $2.68
Alleghany, Beaver, Washington & Greene Counties, Pa. ..... $2.40
West Virginia ..... $2.34
Southeastern Ohio ..... $2.30
*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.63 per bbl. at well.

### MICHIGAN

**Posted by Pure Oil Co.** (May 27, '41)
Midland, Midland County ..... $1.44
Sherman ..... $1.39

**Posted by Simrall Corp.** (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise ..... $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) ..... $1.42
Freeman, Redding, Lincoln & Winterfield ..... $1.39
West Branch-Arenac ..... $1.24
Hamilton-Grout ..... $1.29

**Posted by Sohio Corp. (Mich. Div.)**
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) ..... $1.45
Trenton crude, Monroe Co. (June 2, '41) ..... $1.39

**Posted by Bay Pipe Line Corp.** (May 27, '41)
Saginaw & Wise ..... $1.44
Clare ..... $1.11
Buckeye, Bentley & Kawkawlin ..... $1.42
Adams (June 1, '41) $1.27

### ILLINOIS-INDIANA-KENTUCKY-OHIO

**Posted by Sohio Corp.** (May 21, '41)
Illinois Basin, including Griffin pool ..... $1.37
Carmi, Storms, Ill. area ..... $1.32
Birk City, Ky. area ..... $1.32
Corydon, Ky. area, Henderson ..... $1.32

**Posted by Ohio Oil Co.** (May 21, '41)
Illinois Basin ..... $1.37
Eastern Ill. & Western Ind. ..... 1.22

**Posted by Carter Oil Co.** (May 21, '41)
Louden, Fayette Co. Ill. ..... $1.37

**Posted by Mohawk Oil Lines, Inc.** (May 21, '41)
Southern Illinois ..... $1.37

**Posted by Ashland Oil & Transp. Co.**
**Somerset oil in Ash. Lines, Ky.;** (June 19, '41)
Big Sandy River ..... $1.38
Kentucky River ..... $1.43

**Posted by Owensboro-Ashland Co.**
Owensboro, Ky. area (May 21, '41) ..... $1.32

**Posted by S. O. Ohio** (Sept. 1, '41)
Lima, O. ..... $1.25
Cleveland, Lodi & Chatham (O.) areas ..... $1.30

## MID-CONTINENT

### OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

| Gravity | Schedule No. 1 | Schedule No. 2 | Schedule No. 3 |
|---|---|---|---|
| Below 21 | $0.85 | $0.75 | $0.81 |
| 21-21.9 | .87 | .78 | .83 |
| 22-22.9 | .89 | .81 | .85 |
| 23-23.9 | .91 | .84 | .87 |
| 24-24.9 | .93 | .87 | .89 |
| 25-25.9 | .95 | .90 | .91 |
| 26-26.9 | .97 | .93 | .93 |
| 27-27.9 | .99 | .96 | .95 |
| 28-28.9 | 1.01 | .99 | .97 |
| 29-29.9 | 1.03 | 1.02 | .99 |
| 30-30.9 | 1.05 | 1.05 | 1.01 |
| 31-31.9 | 1.07 | 1.07 | 1.03 |
| 32-32.9 | 1.09 | 1.09 | 1.05 |
| 33-33.9 | 1.11 | 1.11 | 1.07 |
| 34-34.9 | 1.13 | 1.13 | 1.09 |
| 35-35.9 | 1.15 | 1.15 | 1.11 |
| 36-36.9 | 1.17 | 1.17 | 1.13 |
| 37-37.9 | 1.19 | 1.19 | 1.15 |
| 38-38.9 | 1.21 | 1.21 | 1.17 |
| 39-39.9 | 1.23 | 1.23 | 1.19 |
| 40 & above | 1.25 | 1.25 | 1.21 |

**Above schedules posted by:**

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, '41 in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

## TEXAS & NEW MEXICO FIELDS

**Posted by Humble Oil & Refining Co.**

(May 21, '41, except Panhandle, Tex. July 9, '41 and W. Central Texas Dec. 11, '41)

| Gravity | Refugio | Texas Gulf Coast | Miran-do | Ana-huac | Dick-inson | East Central Texas | West Central Texas | Pan-handle, Texas | W. Texas & New Mex. | Hawkins Texas |
|---|---|---|---|---|---|---|---|---|---|---|
| Below 20 | $1.08 | $1.06 | $1.03 | $0.98 | $0.93 | .... | .... | $0.73 | $0.70 | $0.80 |
| 20-20.9 | 1.10 | 1.08 | 1.05 | 1.00 | .95 | .... | .... | .75 | .72 | .82 |
| 21-21.9 | 1.12 | 1.10 | 1.07 | 1.02 | .97 | .... | .... | .77 | .74 | .84 |
| 22-22.9 | 1.14 | 1.12 | 1.09 | 1.04 | .99 | .... | .... | .79 | .76 | .86 |
| 23-23.9 | 1.16 | 1.14 | 1.11 | 1.06 | 1.01 | .... | .... | .81 | .78 | .88 |
| 24-24.9 | 1.18 | 1.16 | 1.13 | 1.08 | 1.03 | .... | .... | .83 | .80 | .90 |
| 25 & above | .... | .... | .... | .... | .... | .... | .... | .... | .... | .92 |
| 25-25.9 | 1.20 | 1.18 | 1.15 | 1.10 | 1.05 | $0.97 | $0.91 | .85 | .82 | .... |
| 26-26.9 | 1.22 | 1.20 | 1.17 | 1.12 | 1.07 | .99 | .93 | .87 | .84 | .... |
| 27-27.9 | 1.24 | 1.22 | 1.19 | 1.14 | 1.09 | 1.01 | .95 | .89 | .86 | .... |
| 28-28.9 | 1.26 | 1.24 | 1.21 | 1.16 | 1.11 | 1.03 | .97 | .91 | .88 | .... |
| 29-29.9 | 1.28 | 1.26 | 1.23 | 1.18 | 1.13 | 1.05 | .99 | .93 | .90 | .... |
| 30-30.9 | 1.30 | 1.28 | 1.25 | 1.20 | 1.15 | 1.07 | 1.01 | .95 | .92 | .... |
| 31-31.9 | 1.32 | 1.30 | 1.27 | 1.22 | 1.17 | 1.09 | 1.03 | .97 | .94 | .... |
| 32-32.9 | 1.34 | 1.32 | 1.29 | 1.24 | 1.19 | 1.11 | 1.05 | .99 | .96 | .... |
| 33-33.9 | 1.36 | 1.34 | 1.31 | 1.26 | 1.21 | 1.13 | 1.07 | 1.01 | .98 | .... |
| 34-34.9 | 1.38 | 1.36 | 1.33 | 1.28 | 1.23 | 1.15 | 1.09 | 1.03 | 1.00 | .... |
| 35-35.9 | 1.40 | 1.38 | 1.35 | 1.30 | 1.25 | 1.17 | 1.11 | 1.05 | 1.02 | .... |
| 36-36.9 | 1.42 | 1.40 | 1.37 | 1.32 | 1.27 | 1.19 | 1.13 | 1.07 | 1.04 | .... |
| 37-37.9 | 1.44 | 1.42 | 1.39 | 1.34 | 1.29 | 1.21 | 1.15 | 1.09 | 1.06 | .... |
| 38-38.9 | 1.46 | 1.44 | 1.41 | 1.36 | 1.31 | 1.23 | 1.17 | 1.11 | 1.08 | .... |
| 39-39.9 | 1.48 | 1.46 | 1.43 | 1.38 | 1.33 | 1.25 | 1.19 | 1.13 | 1.10 | .... |
| 40 & above | 1.50 | 1.48 | 1.45 | 1.40 | 1.35 | 1.27 | 1.21 | 1.15 | 1.12 | .... |

**Refugio:** Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth Saxet, Taft, & Tom O'Connor fields.

**Texas Gulf Coast:** Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

**Mirando:** Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

**Anahuac:** Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

**Dickinson:** Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

**East Central Texas:** Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

**West Central Texas:** Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

**Panhandle, Texas:** Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

**West Texas & New Mexico:** Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

**Hawkins:** Includes crude purchased in Hawkins Field, Wood County, Texas.

**Conroe** ..... $1.43
**Tomball** ..... 1.40
**Van** ..... 1.08
**Talco** ..... 0.79
**East Texas & Flag Lake** ..... $1.25
**Flour Bluff, E. Flour Bluff** ..... 1.33
**Salt Flat, N. Salt Flat** ..... 1.14
**Darst Creek, Hilbig, Carroll** 1.14
**Clark, Zoboroski** ..... $1.14
**Alice, Benavides (N. Sweden), Sun** ..... 1.35
**Ben Bolt, Clark-Muil, Tom Graham** ..... 1.35
**Yates (Pecos)** ..... 0.95
**La Rosa** ..... 1.33

### MAGNOLIA PETROLEUM CO.

(May 21, '41)

**Panhandle, Tex.**—(July 9, '41)—Same as Humble except Magnolia begins with Below 29 at $0.91.

**West Texas**—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.80.

**N. Mexico**—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.80 & ends with 36 & above at $1.04.

**Cass & Panola Cos., Tex.**—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

**Mirando, Tex.**—Same as Humble.

**East Texas** ..... $1.25
**Darst Creek** ..... 1.14
**Luling** ..... 1.05
**Talco** ..... .79
**Lytton Springs** ..... $1.17
**Cleveland-Liberty Co.** ..... 1.26
**Tomball** ..... 1.40

### SINCLAIR-PRAIRIE OIL MARKETING CO.

**Texas Panhandle**—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

**West Texas & New Mexico**—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

**Texas Gulf Coast**—(May 21, '41)—Same as Humble.

**Mexia District, Texas**—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

**East Texas**—(May 21, '41) ..... $1.25
**Long Lake, Texas**—(May 21, '41) ..... 1.23

### STANOLIND OIL PURCHASING CO.

(May 21, '41)

**Clinton, Tex.**—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

**Fairbanks, N. Houston & Rosslyn, Tex.**—Same as Humble Dickinson schedule.

**E. Texas** ..... $1.25 **Satsuma & Tomball, Tex.** ..... $1.40

### STANOLIND OIL & GAS CO.

(May 21, '41)

**W. Beaumont & Spindletop** (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

**Hendrick & Henderson** (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.

**Jay Welder** (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

### THE TEXAS CO.

(May 21, '41)

**Panhandle, Tex.**—Same as Humble except Texaco begins with 34-34.9 at $1.03.

**W. Texas & Lea Co., N. M.**—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

**Texas Gulf Coast**—Same as Humble except Texaco ends with 34 & above at $1.36.

**Duval, Mirando, Tex.**—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

**Refugio, Tex.**—Same as Humble except Texaco ends with 28-28.9 at $1.26.

**East Texas** ..... $1.25
**Darst Creek, Tex.** 1.14
**Conroe, Tex.** ..... $1.43
**Hockley & Cochran Cos., Tex.** ..... .87

### SHELL OIL CO., INC.

(May 20, '41)

**West Texas & Lea Co., N. M.**—Same as Humble except Shell ends with 36 & above at $1.04.

**Fisher Co., Tex.**—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

**East Texas** ..... $1.25
**Livingston field.**
**Polk Co., Tex.** 1.25
**Pecos Co., Tex., except Yates Shallow pool** ..... $0.95
**Pecos Co., Yates Shallow pool** ..... .82

### CONTINENTAL OIL CO.

**Carson & Hutchinson Cos., Tex.**—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

**Mirando, Tex.**—(July 1, '41)—Same as Humble.

**Wade City & Clara Driscoll, Tex.**—(July 1, '41)—Same as Humble Refugio.

**Alfred & Magnolia City, Tex.**—(May 21, '41), $1.35.
**Eddy Co., N. M.**—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

### PAN AMERICAN PRODUCTION CO.

(May 21, '41)

**Hastings & S. Houston, Tex.**—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

**Gillock, Tex.**—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

**East Texas** ..... $1.25
**Cayuga, Tex.** ..... .90
**Goodrich, Tex.** (Dec. 1, '41) ..... 1.20

# CRUDE OIL PRICES

*Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.*

## CALIFORNIA

**Posted by S. O. California, May 23, 1941**

*All gravities above those quoted take highest price offered in that field)*

| Gravity | Signal Hill (Long Beach) | Wilmington | El Segundo | Seal Beach | Huntington Beach | Inglewood | Olinda Brea Canon | Athens-Rosecrans | Torrance | Richfield | Whittier East Coyote (La Habra) | Montebello | West Coyote Hills | Santa Fe Springs | Greeley, Canal, Wasco | Colos Levee | Mountain View | Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area | Lost Hills | Coalinga | Gravity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | .... | $0.68 | .... | .... | $0.71 | .... | $0.70 | .... | $0.70 | $0.70 | $0.70 | $0.72 | .... | .... | .... | .... | .... | $0.73 | $0.73 | $0.73 | 14-14.9 |
| 15-15.9 | .... | .71 | .... | .... | .75 | $0.76 | .72 | .... | .72 | .71 | .72 | .72 | .... | .... | .... | .... | .... | .73 | .73 | .73 | 15-15.9 |
| 16-16.9 | .... | .74 | $0.79 | .... | .79 | .79 | .75 | .... | .74 | .73 | .75 | .75 | .... | .... | .... | .... | .... | .73 | .75 | .73 | 16-16.9 |
| 17-17.9 | .... | .78 | .82 | .... | .82 | .82 | .78 | .... | .77 | .76 | .78 | .78 | .... | .... | .... | .... | .... | .75 | .78 | .73 | 17-17.9 |
| 18-18.9 | $0.80 | .82 | .86 | .... | .86 | .85 | .81 | .... | .80 | .79 | .82 | .74 | .... | .... | .... | .... | .... | .78 | .81 | .73 | 18-18.9 |
| 19-19.9 | .84 | .86 | .90 | .... | .89 | .88 | .85 | .... | .83 | .82 | .85 | .77 | .... | .... | .... | .... | $0.73 | .81 | .84 | .75 | 19-19.9 |
| 20-20.9 | .88 | .90 | .94 | .... | .93 | .92 | .88 | .... | .86 | .85 | .89 | .80 | .... | .... | .... | .... | .76 | .85 | .87 | .77 | 20-20.9 |
| 21-21.9 | .92 | .94 | .98 | .... | .96 | .95 | .91 | .... | .89 | .89 | .92 | .84 | .... | .... | .... | .... | .79 | .90 | .90 | .80 | 21-21.9 |
| 22-22.9 | .96 | .98 | 1.02 | $0.88 | .99 | .98 | .95 | .... | .93 | .93 | .95 | .87 | .... | .... | .... | .... | .83 | .94 | .93 | .83 | 22-22.9 |
| 23-23.9 | 1.00 | 1.02 | 1.05 | .92 | 1.02 | 1.01 | .98 | .... | .97 | .98 | 1.00 | .91 | .... | .... | .... | .... | .87 | .99 | .96 | .86 | 23-23.9 |
| 24-24.9 | 1.03 | 1.06 | 1.07 | .97 | 1.05 | 1.04 | 1.01 | .... | 1.01 | 1.02 | 1.03 | .94 | $0.99 | .... | .... | .... | .90 | 1.03 | .99 | .89 | 24-24.9 |
| 25-25.9 | 1.07 | 1.09 | 1.10 | 1.01 | 1.08 | 1.07 | 1.04 | .... | 1.05 | 1.06 | 1.07 | .98 | 1.02 | .... | .... | .... | .94 | 1.07 | 1.01 | .92 | 25-25.9 |
| 26-26.9 | 1.11 | 1.12 | 1.12 | 1.06 | 1.11 | 1.10 | 1.08 | .... | 1.09 | 1.10 | 1.11 | 1.01 | 1.06 | .... | .... | .... | .97 | 1.11 | 1.04 | .95 | 26-26.9 |
| 27-27.9 | 1.15 | 1.15 | 1.15 | 1.10 | 1.14 | 1.14 | 1.11 | .... | 1.13 | .... | 1.15 | 1.05 | 1.10 | $1.04 | .... | .... | 1.01 | 1.15 | 1.07 | .98 | 27-27.9 |
| 28-28.9 | 1.18 | 1.18 | 1.17 | 1.15 | 1.17 | 1.17 | 1.14 | .... | 1.17 | .... | .... | 1.08 | 1.13 | 1.08 | .... | .... | 1.04 | 1.19 | 1.10 | 1.00 | 28-28.9 |
| 29-29.9 | 1.20 | 1.21 | .... | 1.19 | 1.20 | 1.20 | .... | $1.17 | .... | .... | .... | 1.12 | 1.17 | 1.12 | .... | .... | 1.07 | 1.24 | 1.13 | 1.02 | 29-29.9 |
| 30-30.9 | 1.23 | 1.24 | .... | .... | 1.23 | 1.22 | .... | 1.21 | .... | Elwood | .... | 1.15 | 1.21 | 1.15 | $1.01 | $1.09 | 1.10 | 1.28 | 1.16 | 1.04 | 30-30.9 |
| 31-31.9 | .... | .... | .... | .... | .... | 1.24 | .... | 1.25 | .... | Terrace | .... | 1.19 | 1.24 | 1.19 | 1.04 | 1.12 | 1.14 | .... | .... | 1.06 | 31-31.9 |
| 32-32.9 | .... | .... | .... | .... | .... | .... | .... | 1.29 | .... | F.o.b. Ship | .... | 1.23 | 1.28 | 1.23 | 1.07 | 1.14 | 1.17 | .... | .... | 1.09 | 32-32.9 |
| 33-33.9 | .... | .... | .... | .... | .... | .... | .... | 1.32 | .... | $1.22 | .... | 1.27 | .... | 1.26 | 1.10 | 1.17 | .... | .... | .... | 1.11 | 33-33.9 |
| 34-34.9 | Kettleman Hills | | | | | | | 1.36 | .... | 1.25 | .... | 1.31 | .... | 1.30 | 1.13 | 1.20 | .... | .... | .... | 1.13 | 34-34.9 |
| 35-35.9 | .... | $1.23 | .... | .... | .... | .... | .... | .... | .... | 1.28 | .... | 1.35 | .... | .... | 1.16 | 1.22 | .... | .... | .... | .... | 35-35.9 |
| 36-36.9 | .... | 1.26 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.39 | .... | .... | 1.19 | 1.25 | .... | .... | .... | .... | 36-36.9 |
| 37-37.9 | .... | 1.29 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.43 | .... | .... | 1.22 | .... | .... | .... | .... | .... | 37-37.9 |
| 38-38.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.47 | .... | .... | 1.25 | .... | .... | .... | .... | .... | 38-38.9 |
| 39-39.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.51 | .... | .... | .... | .... | .... | .... | .... | .... | 39-39.9 |
| 40-40.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.53 | .... | .... | .... | .... | .... | .... | .... | .... | 40-40.9 |

**Playa Del Rey:** (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
**Wheeler Ridge:** 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
**Newhall, Kern River, Kern Front, McKittrick & Round Mountain:** 14-14.9, $0.73.

## LOUISIANA-ARKANSAS

**Posted by S. O. Louisiana, May 22, '41**

| Gravity | Atlanta, Ark. et al. | De Soto, La. et al. | Rodessa, La. et al. | Bunkie, La. et al. | Darrow, La. et al. | University, La. (Baton Rouge) |
|---|---|---|---|---|---|---|
| 40 & above | $1.08 | $1.18 | $1.20 | $1.30 | $1.30 | .... |
| 39-39.9 | 1.06 | 1.16 | 1.18 | 1.28 | 1.28 | .... |
| 38-38.9 | 1.04 | 1.14 | 1.16 | 1.26 | 1.26 | .... |
| 37-37.9 | 1.02 | 1.12 | 1.14 | 1.24 | 1.24 | .... |
| 36-36.9 | 1.00 | 1.10 | 1.12 | 1.22 | 1.22 | .... |
| 35-35.9 | .98 | 1.08 | 1.10 | 1.20 | 1.20 | .... |
| 35 & above | .... | .... | .... | .... | .... | $1.36 |
| 34-34.9 | .96 | 1.06 | 1.08 | 1.18 | 1.18 | 1.34 |
| 33-33.9 | .94 | 1.04 | 1.06 | 1.16 | 1.16 | 1.32 |
| 32-32.9 | .92 | 1.02 | 1.04 | 1.14 | 1.14 | 1.30 |
| 31-31.9 | .90 | 1.00 | 1.02 | 1.12 | 1.12 | 1.28 |
| 30 & below | .... | .... | .... | .... | .... | 1.26 |
| 30-30.9 | .88 | .98 | 1.00 | 1.10 | 1.10 | .... |
| 29-29.9 | .86 | .96 | .98 | 1.08 | 1.08 | .... |
| 28-28.9 | .84 | .94 | .96 | 1.06 | 1.06 | .... |
| 27-27.9 | .82 | .92 | .94 | 1.04 | 1.04 | .... |
| 26-26.9 | .80 | .90 | .92 | 1.02 | 1.02 | .... |
| 25-25.9 | .78 | .88 | .90 | 1.00 | 1.00 | .... |
| Below 25 | .... | .86 | .88 | .98 | .... | .... |
| 24-24.9 | .76 | .... | .88 | .... | .98 | .... |
| 23-23.9 | .74 | .... | .86 | .... | .96 | .... |
| 22-22.9 | .72 | .... | .84 | .... | .94 | .... |
| 21-21.9 | .70 | .... | .82 | .... | .92 | .... |
| Below 21 | .68 | .... | .80 | .... | .90 | .... |

**Atlanta** schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

**De Soto** schedule includes Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

**Rodessa** schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941).

**Bunkie** schedule includes Eola, Olla, & South Olla.

**Darrow** schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

**Big Creek, Dorcheat, McKamie Distillates** (Sour) ..... $1.15
**Heavy Smackover Crude** ..... .83
**Cotton Valley Distillate** (Sept. 1, '41) ..... 1.40
**Cotton Valley** (Holloway Sand Crude) ..... 1.25
**Lisbon Distillate** ..... 1.20

*(Continued next column)*

## LOUISIANA-ARKANSAS *(Cont'd)*

**Posted by Shell Oil Co., Inc.** (May 20, '41)

| Gravity | Iowa | Roanoke | Gibson |
|---|---|---|---|
| Below 20 | $0.99 | $0.94 | $0.89 |
| 20-20.9 | 1.01 | .96 | .91 |
| 21-21.9 | 1.03 | .98 | .93 |
| 22-22.9 | 1.05 | 1.00 | .95 |
| 23-23.9 | 1.07 | 1.02 | .97 |
| 24-24.9 | 1.09 | 1.04 | .99 |
| 25-25.9 | 1.11 | 1.06 | 1.01 |
| 26-26.9 | 1.13 | 1.08 | 1.03 |
| 27-27.9 | 1.15 | 1.10 | 1.05 |
| 28-28.9 | 1.17 | 1.12 | 1.07 |
| 29-29.9 | 1.19 | 1.14 | 1.09 |
| 30-30.9 | 1.21 | 1.16 | 1.11 |
| 31-31.9 | 1.23 | 1.18 | 1.13 |
| 32-32.9 | 1.25 | 1.20 | 1.15 |
| 33-33.9 | 1.27 | 1.22 | 1.17 |
| 34 & above | 1.29 | 1.24 | 1.19 |

**Iowa** schedule includes Black Bayou & White Castle, La. fields.

**Roanoke** schedule includes Chalkley, La. field.

**Gibson** schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

**Happytown** field, St. Martin Par., La. ..... $1.15

**Posted by Arkansas Fuel Oil Corp.**

Urania, La. (May 22, '41) ..... $1.15

**Posted by Continental Oil Co.** (May 21, '41)

Tepetate, La. ..... $1.18
Ville Platte, La. ..... 1.20
Lake Arthur, La. ..... 1.18
Ritchie, La. (Sept. 1, '41) ..... 1.08

**Abbeville, La.**

| | | | |
|---|---|---|---|
| Below 36 | $1.07 | 37-37.9 | $1.11 |
| 36-36.9 | 1.09 | 38-38.9 | 1.13 |
| | | 39-39.9 | $1.15 |
| | | 40 & above | 1.17 |

## CANADIAN FIELDS

**Posted by Imperial Oil Limited**

**Western Ontario** (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs ..... $2.17

**Turner Valley Crude Oil** (July 16, '41)

(Prices FOB producer's tankage)

| | | | | | | |
|---|---|---|---|---|---|---|
| 33-33.9 | $1.35 | 44-44.9 | $1.57 | 55-55.9 | $1.79 |
| 34-34.9 | 1.37 | 45-45.9 | 1.59 | 56-56.9 | 1.81 |
| 35-35.9 | 1.39 | 46-46.9 | 1.61 | 57-57.9 | 1.83 |
| 36-36.9 | 1.41 | 47-47.9 | 1.63 | 58-58.9 | 1.85 |
| 37-37.9 | 1.43 | 48-48.9 | 1.65 | 59-59.9 | 1.87 |
| 38-38.9 | 1.45 | 49-49.9 | 1.67 | 60-60.9 | 1.89 |
| 39-39.9 | 1.47 | 50-50.9 | 1.69 | 61-61.9 | 1.91 |
| 40-40.9 | 1.49 | 51-51.9 | 1.71 | 62-62.9 | 1.93 |
| 41-41.9 | 1.51 | 52-52.9 | 1.73 | 63-63.9 | 1.95 |
| 42-42.9 | 1.53 | 53-53.9 | 1.75 | 64 & over | 1.97 |
| 43-43.9 | 1.55 | 54-54.9 | 1.77 | | |

**Absorption Gasoline** (July 16, '41)

90% Rec., 20 lb. Reid v.p. ..... $2.28
90% Rec. 17 lb. Reid v.p. ..... 2.44

## ROCKY MOUNTAIN FIELDS

**Posted by Stanolind Oil & Gas Co.** (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

| | | | | | |
|---|---|---|---|---|---|
| Below 29 | $0.96 | 32-32.9 | $1.04 | 36-36.9 | $1.12 |
| 29-29.9 | .98 | 33-33.9 | 1.06 | 37-37.9 | 1.14 |
| 30-30.9 | 1.00 | 34-34.9 | 1.08 | 38-38.9 | 1.16 |
| 31-31.9 | 1.02 | 35-35.9 | 1.10 | 39-39.9 | 1.18 |
| | | | | 40 & above | 1.20 |

| Wyoming: | | Wyoming: | |
|---|---|---|---|
| Tensleep Crude | $0.6785 | Grass Creek Light | $1.00 |
| Frannie Light | .70 | Grass Creek Heavy | .50 |
| Frannie Heavy | .47 | Elk Basin | 1.00 |
| Hamilton Dome | .45 | Hes, Colo. | 1.07 |

**Posted by Ohio Oil Co.** (May 20, '41)

Elk Basin, Wyo. ..... $1.00
Grass Creek, Wyo., Light ..... 1.00
Rock Creek, Wyo. ..... 1.15
Lance Creek, Wyo., (July 1, '41) ..... 1.12

**Posted by Continental Oil Co.** (May 21, '41)

**Ft. Collins & Wellington, Col.**

| | | | | | |
|---|---|---|---|---|---|
| Below 29 | $0.96 | 32-32.9 | $1.04 | 36-36.9 | $1.12 |
| 29-29.9 | .98 | 33-33.9 | 1.06 | 37-37.9 | 1.14 |
| 30-30.9 | 1.00 | 34-34.9 | 1.08 | 38-38.9 | 1.16 |
| 31-31.9 | 1.02 | 35-35.9 | 1.10 | 39-39.9 | 1.18 |
| | | | | 40 & above | 1.20 |

| | | | |
|---|---|---|---|
| Canon City & Florence, Col. | $1.05 | Big Muddy, Wyo., (May 30, '41) | $1.08 |
| Cat Creek, Mont. | 1.15 | Lance Creek, Wyo. (July 1, '41) | $1.12 |

**Posted by Independent Pipe Line Co.** (Aug. 1, '41)

Falls City, Neb., field price ..... $0.90
Falls City, Neb., loaded in tank cars ..... 0.95
Shubert, Neb., loaded in tank cars ..... 0.97

## SOUTHEASTERN FIELDS

**Posted by Allied Pipe Line Corp.** (Oct. 16, '41)

**Tinsley (Miss.) Crude**

| | | | |
|---|---|---|---|
| 24-24.9 | $0.745 | 32-32.9 | $0.905 |
| 25-25.9 | .765 | 33-33.9 | .925 |
| 26-26.9 | .785 | 34-34.9 | .945 |
| 27-27.9 | .805 | 35-35.9 | .965 |
| 28-28.9 | .825 | 36-36.9 | .985 |
| 29-29.9 | .845 | 37-37.9 | 1.005 |
| 30-30.9 | .865 | 38-38.9 | 1.025 |
| 31-31.9 | .885 | 39-39.9 | 1.045 |
| | | 40 & above | 1.065 |

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# · PERSONALS ·

After 44 years in the production division of the oil industry, 34 of them with Continental Oil Co., **George Cox** has retired to Santa Ana, Calif., where he now spends his time "absorbing sunshine and trying his luck at fishing."

Before he joined Conoco in 1907 as rig builder and tool dresser, he had worked 10 years in Colorado oil fields. At the time of his retirement, he was district foreman of Continental's Rocky Mountain division, headquartered at Shiprock, N. Mex.

* * *

The American Petroleum Co., wholesale marketer for over 25 years with headquarters in Cleveland, liquidated its business as of Jan. 1. **Emory G. Hukill** founded the company in 1914.

At one time this company had branch offices in Oklahoma, Texas, Michigan, Illinois, and other points. Mr. Hukill, who started in the oil business with the Atlantic Refining Co., at Franklin, Pa., will continue to make his home in Cleveland.

* * *

**George J. O'Brien** has been appointed by the board of directors as assistant to the president of California Standard. Mr. O'Brien is now board of directors' representative in Los Angeles and chairman of the company's committee of executives.

**J. H. Tuttle** has taken over Mr. O'Brien's former duties as treasurer in addition to his own as vice-president and director.

* * *

**Lieut. Clarence A. Keller Jr.,** son of **Clarence A. Keller,** sales manager of Derby Oil Co., has been cited for bravery as one of the heroes of the early days of the war with Japan. A graduate of Annapolis in 1933, Lieut. Keller has been stationed in the Philippines for some time. His career in the Navy has been outstanding, including a citation from the Greek government for saving the lives of Greek sailors off the Virginia coast four years ago.

**A. S. Matthews,** formerly vice-president of Pennzoil Co., has been appointed national account sales manager for Tide Water Associated Oil Co., 17 Battery Place, New York City.

* * *

**Roger A. Howe** of Shreveport has resigned as production superintendent of Carter Oil Co.'s southern division to become vice-president and general manager of the newly organized McKamie Gas Cleaning Co. Company was organized to purchase and process "sour" gas from the McKamie field of Arkansas. Plans call for construction of an absorption plant in the field to manufacture casinghead gasoline and by-products. Sour gas will be stripped of its hydrogen sulphide content before processing.

* * *

Seaside Oil Co., Santa Barbara, Calif., has announced the election of **H. B. Kellogg** to the position of president and general manager and the election of **F. E. McClaren** as vice-president and sales manager.

Mr. Kellogg succeeds the late **M. W. O'Brien** as president. He has been vice-president of Seaside since 1936 and a director since 1937.

Election to vice-presidency climaxes a sharp rise with the company for Mr. McClaren. He entered the organization as assistant sales manager in 1936, was made sales manager in February, 1937, and elected a director in November of the same year.

Promotions for the two men were effective Dec. 1.

H. B. Kellogg F. E. McClaren

**John Steiger,** head of NPN's Tulsa News Bureau, becomes editor of *The Empire,* official publication of Cities Service Oil Co., on Jan. 12, thus stepping into the editorial shoes of NPN's former Refining Technology editor, **J. C. Chatfield,** who has resigned as "Empire" editor to join the specialties division of Phillips Petroleum Co.

John, 29, had been with NPN's organization for 12 years, starting as a market reporter on *Platt's Oilgram* and working up to become head of the Tulsa bureau in the spring of 1940. An archaeologist by hobby, he is chairman of the publication committee of the Oklahoma State Archaeological Society. He is also a member of the Southwestern Assn. of Industrial Editors.

* * *

**First Lieut. James C. Denton, Jr.,** son of **James C. Denton** of Tulsa, vice-president of Mid-Continent Petroleum Corp., has been called to active duty and assigned to the office of Provost Marshal General in Washington.

* * *

**Fred W. Ficken,** New York City oil man who retired from the oil business 8 months ago because of illness, reports himself returned to good health and opening his own business as a petroleum and ships broker. His offices opened Jan. 5 at 30 Rockefeller Plaza, Fred announces.

* * *

**Ingraham Grayson,** El Dorado, Ark., Lion Oil Refining Co., has resigned from the asphalt subcommittee, according to announcement by District 2 marketing committee. Mr. Grayson already is a member of the same committee in District 3.

* * *

**G. T. Hopkins** has been transferred by Shell from Boston to Cleveland, where he is Cleveland division sales manager, succeeding **G. R. Monkhouse,** now Minneapolis division manager.

"I think the book was very well written and it is my belief that it set out very plainly the problems that face the Independent Jobber in the future. If any Jobber will read this book carefully and study the suggestions set out to his own business, whether he is selling an advertised product or an unadvertised product, he will have no need to worry about his position in the future as far as marketing is concerned. I also believe that the Jobber should have his employees read this book so that they would have some understanding of the problems that his employer is confronted with."

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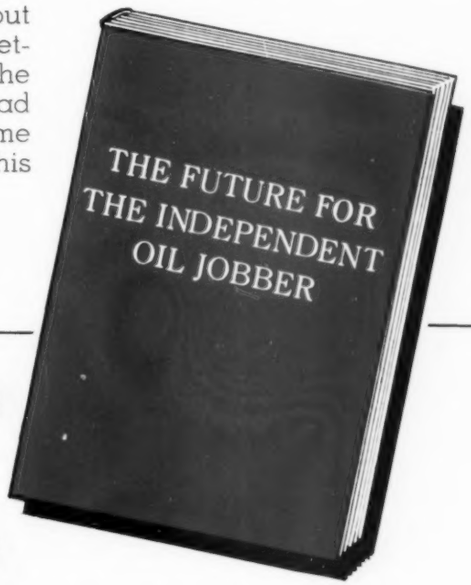
Secretary of Kansas
Oil Men's Association

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